NCEC-630 ERIC REPORT RESUME

ED 010 057 10-05-66 24 (REV)
A COMPARISON OF MATHEMATICS PROGRAMS FOR ABLE JUNIOR HIGH SCHOOL STUDENTS.
GOLDBERG, MIRIAM L. * AND OTHERS
DCW10517 COLUMBIA UNIV., H. MANN-LINCOLN INST. OF SCH. EXP., NEW
BR-5-0381-VOL-2
- -66
EDRS PRICE MF-$0.18 HC-$4.96 124P.

*TABLES (DATA), *MATHEMATICS CURRICULUM, *COMPARATIVE ANALYSIS, *JUNIOR HIGH SCHOOL, NEW YORK CITY, NEW YORK

THE APPENDIXES FOR THE TALENTED YOUTH PROJECT (TYP) MATHEMATICS STUDY INCLUDE THE MEASURING INSTRUMENTS AND TABLES COMPILED DURING THE INVESTIGATION. THE PROJECT COMPARED THE EFFECTIVENESS OF VARIOUS CURRICULUM PATTERNS AND PRACTICES IN MATHEMATICS EDUCATION CURRENTLY USED WITH ACADEMICALLY TALENTED JUNIOR HIGH STUDENTS. THE FOUR APPENDIXES ARE (1) INSTRUMENTS, (2) SEVENTH-GRADE TABLES, (3) EIGHTH-GRADE TABLES, AND (4) NINTH-GRADE TABLES. (CC)

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# A Comparison of Mathematics Programs for Able Junior High School Students

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## Volume II - Appendixes for Final Report

TALENTED YOUTH PROJECT
HORACE MANN–LINCOLN INSTITUTE OF SCHOOL EXPERIMENTATION
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NEW YORK, NEW YORK 10027

U. S. OFFICE OF EDUCATION
BUREAU OF RESEARCH
PROJECT NO. 5–0381

ED010057

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# APPENDIX A

## APPENDIX A

Only two instruments are included in this Appendix -- the Questionnaire on Mathematics and the General Information Blank which includes the section on Rating Your Abilities.

The six tests prepared by the Educational Testing Service are under security and cannot be reproduced.

The Teacher-Made Tests, prepared for each program each year (a total of 17) are not included in this report. Their high degree of specificity to the particular program for which they were constructed limits their general usefulness and does not seem to warrant the inclusion of approximately 100 additional pages. However, single copies of these tests are available upon written request to the authors.

Horace Mann-Lincoln Institute of School Experimentation
Teachers College, Columbia University

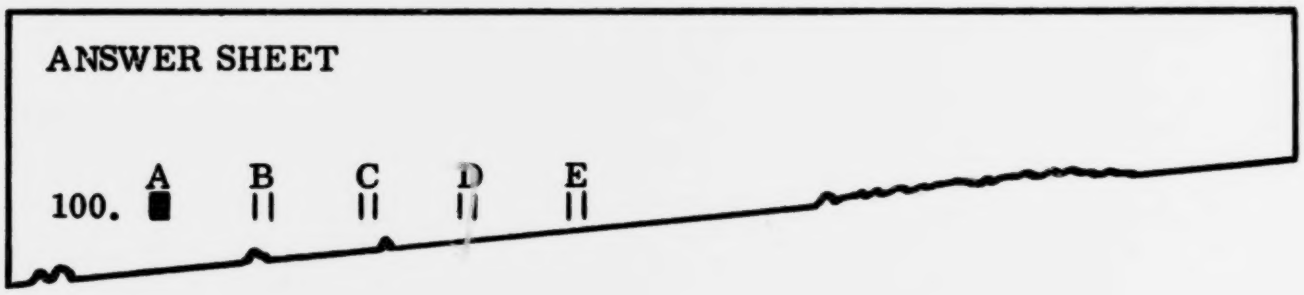
## QUESTIONNAIRE ON MATHEMATICS

The purpose of this questionnaire is to obtain information about how students like you feel about the subject of mathematics. This is not a test, but it is an opinionnaire in which you are asked for your frank opinions. In order for the questionnaire to be effective, you must give your true feelings in your answers. There is no such thing as a "right" or "wrong" answer, so please respond according to your own feelings and opinions. The results will be valuable in improving the teaching of arithmetic and mathematics in the future. Naturally, your answers to this questionnaire will have no bearing whatever on your school marks.

DIRECTIONS: Read each of the statements below regarding mathematics, mathematicians, and mathematical careers. Record your responses on the answer sheet.

Mark between the lines under A if you Strongly Agree with the statement.
Mark between the lines under B if you are in Mild Agreement.
Mark between the lines under C if you are Neutral.
Mark between the lines under D if you are in Mild Disagreement.
Mark between the lines under E if you Strongly Disagree.

EXAMPLE: 100. I think ice skating is more fun than roller skating.



ANSWER SHEET

|  | A | B | C | D | E |
|---|---|---|---|---|---|
| 100. | ▮ | \|\| | \|\| | \|\| | \|\| |

Since a heavy line has been drawn between the lines under A, the feeling recorded is Strong Agreement. If you had been in Mild Agreement, then you would have recorded a heavy line under B. If you had no feeling one way or the other about the statement, you would have recorded a heavy line under C, the Neutral position. If you had been in Mild Disagreement, then you would have recorded a heavy line under D. If you had Strongly Disagreed, you would have recorded a heavy line under E.

BE CAREFUL TO RECORD ONLY ONE ANSWER FOR EACH QUESTION. If you make a mistake and need to correct an answer, erase the incorrect response completely and then mark the intended response. Work rapidly. Record the first response that comes to mind as you read each item.

1. For me, training for a career in mathematics or science is not worth the time and effort required.
2. The chief reward in mathematical work is the thrill of discovery.
3. There is much self-satisfaction to be received from work as a mathematician.
4. Mathematics is colder and less exciting than almost any other subject I have studied.
5. I could have learned a great deal of the mathematics covered in school in less time, just by reading textbooks.
6. I frequently get so wrapped up in a mathematical problem that I could spend hours working on it.
7. Math is one of my best subjects.
8. Scientists and mathematicians display an almost unreasonable attachment to their work.
9. Mathematics receives too little serious attention in the mass media – newspapers, television, and radio.
10. At the present time mankind has little need for creative mathematics as more math is already known than is being used.
11. Mathematicians attach less value to beauty than do people in most other professions.
12. Mathematicians are more concerned about the order of things than about the welfare of people.
13. Mathematics and science are so much more important to social progress than other fields that mathematicians and scientists should be exempt from military service.
14. Outside of the fields of science and engineering man finds little in math that helps him to understand and solve his problems.
15. What helps me most in learning math is to be allowed to find out how to do the lesson by myself.
16. I learn more mathematics when I am taught the rule first, and then see some examples.
17. I learn math best when the teacher tells us exactly how to go about solving the problems.
18. Mathematical work is monotonous.
19. If I were interested in a certain profession and found out that it requires a knowledge of advanced mathematics, I would be even more interested than before.
20. I learn mathematics better when we see various examples of a certain kind of problem first, and then are allowed to discover the rule ourselves.
21. Girls as well as boys should take mathematics.
22. If I came across a tough mathematics puzzle in a magazine, I would probably spend as much time as needed to solve it.
23. I think I have considerable talent for mathematics.
24. In high school, boys should receive more encouragement to take mathematics courses than girls.
25. Mathematics is a man's world: there is little room in it for women.
26. High school mathematics should be required only for those students who want to be mathematicians.
27. Important economic, political, and social processes are greatly influenced by mathematicians.

GO ON TO THE NEXT PAGE

28. I find that math is not difficult to learn if I keep up with each lesson; but if I miss a lesson, I might as well give up.

29. The questions good students ask in a mathematics class usually help me understand the work better.

30. Mathematicians are generally stiff and formal in their dealings with other people.

31. I get fun out of doing mathematical problems.

32. Mathematicians are generally shy, lonely individuals.

33. A mathematician's career is full of adventure.

34. Mathematicians are more emotional than other people.

35. I would say that it is not worth much to get the right answer to a problem if you do not really understand the problem.

36. I am fairly sure that I will do well in all the mathematics courses that I will take in the future.

37. Girls generally have less mechanical aptitude than boys; therefore, they should not consider scientific or mathematical careers.

38. To become a mathematician requires superior intellectual ability.

39. By translating ideas into mathematical symbols their beauty and originality are lost.

40. Mathematics is not a good field for creative people to enter.

41. Unless mathematics is applied to solving scientific or social problems, it has little value.

42. Mathematics has contributed very little to the development of ideas pertaining to the social sciences.

43. The development of new ideas is the mathematician's greatest source of satisfaction.

44. About all of the mathematics worth knowing has been developed and can be found somewhere in books.

45. There is too much drill required in the study of math.

46. Sometimes I see a good way of working a mathematical problem which is different from the one we are expected to use.

47. A knowledge of mathematics is essential to the study of human behavior.

48. I enjoy the study of mathematics.

49. When some of the students show that they understand the solution to a problem before I understand it, I feel discouraged and blame them for showing off.

50. When my friends do not understand something in mathematics, I am usually able to explain it to them.

51. It is possible to be a well-educated adult without going beyond junior high school mathematics.

52. The greatest value of elementary and high school mathematics is to enable people to handle their financial affairs competently.

53. Mathematics will enable me to think more clearly in other subject areas.

54. Before I am through with high school I expect to take as much math as the school offers.

GO ON TO THE NEXT PAGE

55. To appreciate modern society fully, a person must understand the importance of mathematics.

56. If I had a choice for homework, I would probably select nine easy problems worth 10 points rather than three difficult problems worth 10 points.

57. I do not have the intelligence for a successful scientific or mathematical career.

58. If I wanted to, I could probably be a good mathematics teacher some day.

59. I enjoy solving mathematical problems even when I cannot see any practical use for them.

60. When I cannot solve a mathematical problem fairly quickly, I wish that I could keep working at the problem until I solve it.

61. I believe that mathematical work is boring.

62. Mathematicians are too narrow in their views.

63. Learning to solve mathematical problems improves one's ability to solve other kinds of problems.

64. I frequently read about mathematical subjects that are not necessarily related to our school work.

65. Unless I know that I am getting the right answers, I hesitate to go on to more difficult problems.

66. A mathematician might be described as a nonconformist.

67. Success in mathematical work requires great dedication and self-discipline.

68. When I read an article that has graphs in it, I generally skip over them and continue with the text.

STOP

Horace Mann-Lincoln Institute of School Experimentation
Teachers College, Columbia University

## Individual Data Sheet

Name ______________________________ Birthdate: Year ____ Month ____ Day ____

Address ______________________________ Age ________ Class ________

School (Name or No.) __________________ Teacher ______________________________

______________________________ Date ______________________________

Please answer the questions below to the best of your ability:

1. **Father's Occupation:** ______________________________

On the lines below describe briefly what your father actually does. For example, if his occupation is "salesman", tell what he sells and where he works. If his occupation is "plant manager", describe the kind of plant he manages, its size, location, and what it produces. If his occupation is "teacher", tell at what grade level, which subjects, and where he teaches.

______________________________________________________________

______________________________________________________________

______________________________________________________________

2. **Mother's Occupation:** ______________________________

a. On the lines below describe briefly what your mother actually does, if her occupation is other than housewife.

______________________________________________________________

______________________________________________________________

______________________________________________________________

b. How long has your mother been working? ____________________ Years.

3. **Parent's Education.** In the list below place an F in the space at the left of the phrase which describes the highest grade in school which your FATHER has completed, and an M at the left of the phrase which describes the highest grade in school which your MOTHER has completed.

_______ a. Some elementary school

_______ b. Graduated from elementary school

_______ c. Some high school

_______ d. Graduated from high school

_______ e. Some college

_______ f. Graduated from a four-year college

_______ g. Some graduate work.

_______ h. Holds a doctor's degree (MD, PhD, EdD, DDS, etc.)

4. Number of Siblings:

a. No. of older brothers?_____ Younger brothers?_____ Twin brother?_____

b. No. of older sisters? _____ Younger sisters? _____ Twin sister? _____

5. Educational Plans: Check the one statement below which best describes what you are most likely to do after you graduate from high school.

_____a. Work full time no further schooling

_____b. Work during the day, go to school in the evening

_____c. Attend full time at a junior college or technical school

_____d. Go full time to a four year college

6. Occupational Plans: On the line below name the occupation which you now think you will enter.

_______________________________

7. Favorite Activities: Describe briefly in order of preference the three activities other than school work (special lessons, watching T.V., hobbies, sports, etc.) which you enjoy most.

a._____________________ b. _____________________

c. _____________________

8. Time Spent on Out-of-school Activities: On the line at the left of the listed activities enter the approximate number of hours per week (outside of school) that you spend on each one:

_____a. All homework. _____b. Reading (not directly related to your school work).

_____c. Math homework. _____d. Hobbies (collections, models, chess, etc.).

_____e. Practicing a musical instrument. _____f. Sports or outdoor activities.

_____g. Attending special classes (Hebrew School, Dancing, Art school, etc.).

10. School Subjects: a. Which is your favorite school subject?_______________

b. Which school subject do you like least? _______________

c. If you could plan your own school program to include only those subjects which you consider important and were allowed to study each of these for as long or as little time as you thought necessary, what kind of weekly program would you plan for yourself? Schedule yourself for 30 hours. List all subjects you would choose (include lunch) and the number of hours per week you would like to spend on each.

| Subjects to be Studied | Hours Per Week | Subjects to be Studied | Hours Per Week |
|---|---|---|---|
| a. _______________ | _______ | e. _______________ | _______ |
| b. _______________ | _______ | f. _______________ | _______ |
| c. _______________ | _______ | g. _______________ | _______ |
| d. _______________ | _______ | h. _______________ | _______ |

11. Rating Your Abilities: Below are some statements on which you are asked to rate yourself. For each of the statements circle the number at the right which you think best describes you at the present.

| Abilities | Very Good | Good | Fair | Not too Good | Poor |
|---|---|---|---|---|---|
| 1. My ability to take criticism is | 1 | 2 | 3 | 4 | 5 |
| 2. My ability to make decisions is | 1 | 2 | 3 | 4 | 5 |
| 3. My ability to assume leadership is | 1 | 2 | 3 | 4 | 5 |
| 4. My ability to work independently is | 1 | 2 | 3 | 4 | 5 |
| 5. My ability to solve problems is | 1 | 2 | 3 | 4 | 5 |
| 6. My ability to speak before groups is | 1 | 2 | 3 | 4 | 5 |
| 7. My ability to express ideas in writing is | 1 | 2 | 3 | 4 | 5 |
| 8. My ability to stick to my convictions is | 1 | 2 | 3 | 4 | 5 |
| 9. My ability to think clearly is | 1 | 2 | 3 | 4 | 5 |
| 10. My ability to carry out responsibility is | 1 | 2 | 3 | 4 | 5 |
| 11. My artistic ability is | 1 | 2 | 3 | 4 | 5 |
| 12. My athletic ability is | 1 | 2 | 3 | 4 | 5 |
| 13. My musical ability is | 1 | 2 | 3 | 4 | 5 |
| 14. My mathematical ability is | 1 | 2 | 3 | 4 | 5 |
| 15. My mechanical ability is | 1 | 2 | 3 | 4 | 5 |
| 16. My intellectual ability is | 1 | 2 | 3 | 4 | 5 |
| 17. My social ability is | 1 | 2 | 3 | 4 | 5 |
| 18. My self-confidence is | 1 | 2 | 3 | 4 | 5 |
| 19. My sense of humor is | 1 | 2 | 3 | 4 | 5 |
| 20. My appearance is | 1 | 2 | 3 | 4 | 5 |
| 21. My eagerness to learn is | 1 | 2 | 3 | 4 | 5 |
| 22. My judgment is | 1 | 2 | 3 | 4 | 5 |
| 23. My physical health is | 1 | 2 | 3 | 4 | 5 |
| 24. My imagination is | 1 | 2 | 3 | 4 | 5 |
| 25. My disposition is | 1 | 2 | 3 | 4 | 5 |

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# APPENDIX B

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## Table B-1

### Regression Analyses of Pupil Scores in Five Mathematics Programs on the Developed Mathematical Abilities Test, the Mathematics Achievement Test and the Teacher-Made Tests at the End of Grade Seven.

| | Beta Weights | |
|---|---|---|
| Independent Variables | Developed Math Abilities | Mathematics Achievement |
| 1. IQ | .0474 | .0973 |
| 2. Reading Achievement | .0809 | .0494 |
| 3. Mathematics Achievement | .2901 | .2994 |
| 4. Attitudes: Total Score | .0003 | -.0280 |
| 5. Attitudes: Self-interest | .1294 | .2255 |
| 6. Socio-economic Status | -.2190 | -.3155 |
| 7. Self-ability rating | -.0224 | .0343 |
| | C = -6.9849 | C = -11.1023 |
| | SE = 3.4019 | SE = 3.8136 |
| | $R^2$ = .3270 | $R^2$ = .3436 |
| | MR = .5719 | MR = .5861 |

## Table B-2

### Regression Analyses of Pupil Scores on the Teacher-Made Test-I for Six Mathematics Programs at the End of Grade Seven.

| | Beta Weights | | | | | |
|---|---|---|---|---|---|---|
| | Programs | | | | | |
| Independent Variable | I | II | III | IV | V | VI |
| 1. IQ | 0.0266 | 0.0829 | 0.0450 | 0.0371 | 0.1116 | 0.1103 |
| 2. Reading | 0.0081 | 0.0779 | -0.0042 | 0.0335 | 0.0111 | 0.0353 |
| 3. Arithmetic | 0.2587 | 0.2666 | 0.2198 | 0.1726 | 0.1577 | 0.2218 |
| 4. Total Attitudes | -0.0453 | -0.0670 | -0.0228 | -0.0017 | 0.0225 | -0.0654 |
| 5. Category V Attitudes | 0.1504 | 0.2642 | 0.1744 | 0.0795 | 0.2190 | 0.3401 |
| 6. SES | -0.2489 | -0.0672 | -0.1521 | -0.8071 | 0.1075 | -0.0246 |
| 7. Abilities Self-Rating | -0.0225 | 0.0072 | -0.0075 | -0.0025 | 0.0441 | 0.0303 |
| | C=9.4039<br>SE=3.2970<br>$R^2$=0.2401<br>MR=0.4900 | C=-7.6783<br>SE=3.1349<br>$R^2$=0.3125<br>MR=0.5590 | C=4.4620<br>SE=3.2925<br>$R^2$=0.2158<br>MR=0.4645 | C=8.3700<br>SE=3.2509<br>$R^2$=0.2414<br>MR=0.4913 | C=-7.7832<br>SE=3.1534<br>$R^2$=0.3037<br>MR=0.5511 | C=-9.8381<br>SE=3.1390<br>$R^2$=0.3373<br>MR=0.5808 |

## Table B-2a

### Regression Analyses of Pupil Scores on the Teacher-Made Test-II for Five[a] Mathematics Programs at the End of Grade Seven.

| | Beta Weights | | | | |
|---|---|---|---|---|---|
| | Programs | | | | |
| Independent Variables | II | III | IV | V | VI |
| 1. IQ | 0.0673 | 0.0791 | 0.0200 | 0.1125 | 0.0554 |
| 2. Reading | 0.1203 | 0.0486 | -0.0143 | 0.0319 | 0.1174 |
| 3. Arithmetic | 0.2690 | 0.2293 | 0.3132 | 0.1944 | 0.2199 |
| 4. Total Attitudes | -0.0541 | -0.0343 | -0.0391 | -0.0284 | 0.0504 |
| 5. Category V Attitudes | 0.2398 | 0.1850 | 0.1149 | 0.3615 | 0.0372 |
| 6. SES | -0.1221 | -0.0139 | -0.8242 | -0.1691 | -0.0560 |
| 7. Abilities Self-Rating | -0.0066 | -0.0139 | -0.0150 | 0.0043 | -0.0142 |
| | C=-6.1958 | C=-2.7930 | C=7.8744 | C=-9.0062 | C=-7.7072 |
| | SE+3.2042 | SE=3.2078 | SE=3.5558 | SE=3.4166 | SE=3.0611 |
| | R2=0.3137 | R2=0.2928 | R2=0.2726 | R2=0.3653 | R2=0.3090 |
| | MR=0.5601 | MR=0.5411 | MR=0.5221 | MR=0.6044 | MR=0.5559 |

[a] Program I took only one Teacher Made Test.

## Table B-3

### Means and Standard Deviations of Pre-test Measures for Pupils Enrolled in Six Mathematics Programs at the Beginning of Grade Seven.

| | Means and Standard Deviations | |
|---|---|---|
| Variable | Mean | S.D. |
| 1. Pupil Sex | 1.4898 | 0.4999 |
| 2. Pupil Age | 145.1253 | 4.3786 |
| [a] 3. Verbal IQ | 129.9172 | 9.1429 |
| [a] 4. STEP-Reading | 51.4579 | 5.9314 |
| [a] 5. STEP-Math | 31.7766 | 5.7004 |
| [a] 6. Attitudes Toward Math | 38.5990 | 9.3991 |
| 7. Sub-Category I | 5.7888 | 2.5021 |
| 8. Sub-Category II | 5.6185 | 2.1859 |
| 9. Sub-Category III | 8.1322 | 2.2921 |
| 10. Sub-Category IV | 4.5797 | 1.6253 |
| [a] 11. Sub-Category V | 11.4793 | 4.3431 |
| 12. Sub-Category VI | 3.0450 | 1.4941 |
| [a] 13. Father's Occupation | 2.9637 | 1.4308 |
| 14. Mother's Occupation | 6.6350 | 2.2106 |
| 15. Father's Education | 5.5321 | 1.4441 |
| 16. Mother's Education | 5.0406 | 1.2007 |
| 17. No. Older Sibs | 0.7819 | 0.8668 |
| 18. No. Younger Sibs | 0.0755 | 1.0336 |
| 19. Occupational Plans | 2.1394 | 1.2104 |
| 20. Educational Plans | 3.8550 | 0.4893 |
| 21. Hours of Home Study | 8.5978 | 4.9469 |
| 22. Hours of Math Homework | 34.7776 | 17.0257 |
| 23. School Hours Desired for Math | 4.9102 | 2.0390 |
| 24. % School Day Desired for Math | 16.5487 | 7.1300 |
| [a] 25. % School Day for Academic Studies | 65.8673 | 16.0107 |
| [a] 26. Ability: Self-Rating | 50.1455 | 10.0659 |
| 27. Math Ability: Self-Rating | 2.0000 | 0.8670 |
| 28. Task Directedness | 5.7490 | 1.7197 |
| 29. Intellectual Ability | 17.5048 | 4.1444 |
| 30. Personal Social Ability | 7.9420 | 2.1024 |
| 31. Employment Status of Mother | 0.3895 | 0.6490 |
| 32. Hours Spent at Reading | 5.8046 | 7.8319 |
| 33. Hours Spent at Music | 2.5611 | 3.6808 |
| 34. Hours Spent Out of School | 2.3851 | 3.6271 |

---

[a] Scores which entered into the regression analyses.

# Table B-3a

Correlations of Initial Pupil Data in Five Mathematics Programs at the Beginning of the Seventh Grade

| Variables | Correlations |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 |
| 1. Sex of Pupil | - | 0.00 | -0.03 | 0.15 | -0.25 | -0.05 | -0.01 | -0.14 | 0.05 | 0.00 | -0.19 | -0.02 | 0.01 | -0.03 | -0.03 | -0.01 | 0.01 | -0.02 | 0.25 | -0.01 | 0.10 | 0.03 | -0.10 | -0.11 | -0.06 | -0.03 | 0.23 | -0.04 | 0.00 | -0.02 | -0.03 | 0.05 | 0.12 | -0.09 |
| 2. Chronological Age |  | - | 0.13 | 0.06 | 0.01 | 0.03 | 0.02 | -0.01 | -0.03 | -0.06 | -0.02 | 0.00 | -0.04 | 0.02 | 0.01 | -0.03 | 0.04 | 0.01 | 0.00 | 0.03 | -0.01 | 0.04 | 0.00 | 0.02 | -0.04 | 0.01 | 0.03 | -0.03 | 0.04 | 0.04 | -0.04 | 0.05 | 0.04 | 0.02 |
| 3. Verbal I. Q. |  |  | - | 0.49 | 0.43 | 0.14 | 0.12 | 0.09 | 0.10 | 0.10 | 0.06 | 0.13 | -0.18 | 0.01 | 0.18 | 0.20 | 0.04 | 0.05 | -0.01 | 0.09 | -0.01 | 0.01 | 0.12 | 0.10 | 0.09 | 0.06 | -0.06 | 0.03 | -0.09 | 0.07 | -0.01 | 0.09 | 0.00 | 0.06 |
| 4. STEP-Reading |  |  |  | - | 0.30 | 0.08 | 0.08 | 0.04 | 0.08 | 0.08 | 0.01 | 0.05 | -0.14 | 0.01 | 0.16 | 0.17 | -0.06 | 0.04 | 0.05 | 0.05 | 0.03 | 0.01 | 0.00 | 0.04 | 0.04 | 0.04 | 0.00 | 0.01 | -0.08 | 0.08 | 0.00 | 0.09 | 0.00 | 0.03 |
| 5. STEP-Mathematics |  |  |  |  | - | 0.17 | 0.08 | -0.01 | 0.06 | 0.08 | 0.23 | 0.11 | -0.15 | 0.00 | 0.14 | 0.17 | 0.01 | 0.05 | 0.02 | 0.05 | -0.03 | -0.08 | 0.15 | 0.14 | 0.08 | 0.06 | -0.26 | 0.04 | -0.03 | 0.09 | -0.02 | 0.00 | -0.01 | 0.03 |
| 6. Attitudes towards mathematics |  |  |  |  |  | - | 0.48 | 0.59 | 0.73 | 0.66 | 0.82 | 0.41 | -0.07 | 0.04 | 0.11 | 0.05 | -0.02 | -0.02 | -0.08 | 0.12 | 0.02 | -0.00 | 0.25 | 0.23 | 0.11 | -0.23 | -0.45 | -0.22 | -0.35 | -0.16 | -0.03 | 0.02 | 0.07 | 0.08 |
| 7. Impact of mathematics on society |  |  |  |  |  |  | - | 0.27 | 0.30 | 0.25 | 0.28 | 0.12 | -0.04 | 0.02 | 0.06 | 0.00 | 0.01 | 0.02 | -0.04 | 0.06 | 0.00 | -0.01 | 0.06 | 0.06 | 0.03 | -0.07 | -0.14 | -0.09 | -0.13 | -0.05 | 0.00 | 0.06 | 0.04 | 0.05 |
| 8. Characteristics of a mathematician |  |  |  |  |  |  |  | - | 0.38 | 0.35 | 0.25 | 0.11 | -0.07 | 0.01 | 0.09 | 0.06 | 0.04 | -0.02 | 0.00 | 0.08 | 0.02 | 0.01 | 0.11 | 0.09 | 0.04 | -0.13 | -0.12 | -0.12 | -0.20 | -0.12 | -0.02 | 0.06 | 0.06 | 0.04 |
| 9. Mathematics as a career |  |  |  |  |  |  |  |  | - | 0.41 | 0.47 | 0.22 | -0.07 | 0.02 | 0.08 | 0.06 | -0.01 | -0.02 | -0.03 | 0.08 | 0.03 | 0.04 | 0.17 | 0.14 | 0.08 | -0.13 | -0.25 | -0.12 | -0.21 | -0.08 | -0.04 | 0.02 | 0.07 | 0.06 |
| 10. Nature of mathematics |  |  |  |  |  |  |  |  |  | - | 0.47 | 0.16 | -0.05 | 0.04 | 0.07 | 0.03 | -0.01 | -0.02 | 0.03 | 0.04 | 0.04 | -0.04 | 0.21 | 0.20 | 0.04 | -0.01 | -0.26 | -0.05 | -0.15 | -0.03 | -0.01 | -0.02 | 0.04 | 0.05 |
| 11. Mathematical ability and interest |  |  |  |  |  |  |  |  |  |  | - | 0.27 | -0.03 | 0.05 | 0.06 | 0.01 | 0.06 | 0.00 | -0.10 | 0.12 | -0.02 | -0.02 | 0.26 | 0.24 | 0.13 | -0.29 | -0.57 | -0.25 | -0.38 | -0.20 | -0.02 | -0.02 | 0.04 | 0.06 |
| 12. School's effectiveness to teach mathematics |  |  |  |  |  |  |  |  |  |  |  | - | -0.07 | -0.02 | 0.09 | 0.08 | 0.03 | -0.03 | 0.06 | 0.04 | 0.00 | 0.01 | 0.12 | 0.09 | -0.01 | -0.05 | -0.16 | -0.07 | -0.12 | -0.04 | 0.00 | 0.00 | -0.01 | 0.04 |
| 13. Father's occupation |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.01 | -0.07 | -0.42 | -0.04 | 0.00 | 0.00 | -0.16 | -0.06 | 0.02 | -0.05 | -0.04 | -0.04 | 0.05 | 0.05 | 0.05 | 0.06 | 0.05 | 0.03 | 0.02 | -0.09 | -0.08 |
| 14. Mother's occupation |  |  |  |  |  |  |  |  |  |  |  |  |  | - | -0.03 | -0.21 | -0.05 | 0.19 | 0.04 | -0.02 | 0.00 | 0.06 | 0.06 | 0.04 | 0.01 | -0.03 | -0.02 | -0.01 | -0.01 | 0.00 | -0.77 | -0.04 | -0.06 | -0.04 |
| 15. Father's education |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.53 | 0.03 | 0.01 | 0.03 | 0.18 | 0.07 | -0.03 | 0.04 | 0.04 | 0.02 | -0.06 | -0.06 | -0.06 | -0.09 | -0.04 | 0.02 | 0.01 | 0.07 | 0.11 |
| 16. Mother's education |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.02 | 0.02 | 0.03 | 0.19 | 0.04 | -0.04 | 0.01 | 0.01 | 0.01 | -0.04 | -0.03 | -0.05 | -0.08 | 0.01 | 0.08 | 0.02 | 0.10 | 0.11 |
| 17. Number of older siblings |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | -0.32 | 0.01 | -0.09 | 0.01 | 0.02 | -0.01 | -0.03 | -0.04 | 0.06 | 0.05 | 0.04 | 0.10 | 0.05 | 0.03 | 0.07 | 0.00 | -0.01 |
| 18. Number of younger siblings |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.00 | -0.04 | -0.03 | -0.02 | 0.03 | 0.03 | 0.00 | 0.04 | 0.04 | 0.07 | 0.04 | 0.02 | -0.15 | -0.01 | -0.02 | -0.05 |
| 19. Occupational plans |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | -0.14 | -0.02 | 0.04 | -0.01 | -0.01 | 0.03 | 0.08 | 0.08 | 0.08 | 0.10 | 0.08 | 0.00 | 0.01 | -0.03 | -0.04 |
| 20. Educational plans |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.02 | 0.01 | 0.01 | 0.02 | 0.11 | -0.16 | -0.09 | -0.15 | -0.18 | -0.12 | 0.00 | 0.01 | 0.09 | 0.07 |
| 21. Hours of study at home |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | -0.35 | 0.01 | 0.05 | -0.03 | 0.06 | -0.05 | -0.05 | -0.04 | 0.00 | 0.00 | 0.08 | 0.04 | 0.03 |
| 22. Hours at mathematics homework |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.02 | 0.02 | -0.03 | 0.00 | 0.07 | 0.00 | 0.02 | 0.02 | -0.05 | 0.02 | 0.07 | -0.04 |
| 23. School hours desired for mathematics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.88 | 0.30 | -0.04 | -0.26 | -0.02 | -0.12 | -0.02 | -0.06 | 0.03 | 0.03 | -0.01 |
| 24. Percent total time desired for mathematics |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.34 | -0.02 | -0.25 | -0.01 | -0.10 | -0.10 | -0.04 | 0.01 | 0.01 | -0.02 |
| 25. Percent of school day desired for academic study |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | -0.05 | -0.11 | -0.03 | -0.10 | -0.05 | -0.03 | -0.01 | -0.02 | 0.00 |
| 26. Self-Ability Inventory Score |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | 0.38 | 0.65 | 0.80 | 0.74 | -0.02 | 0.02 | -0.13 | -0.06 |
| 27. Items 14, Self-Ability Inventory |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.29 | 0.51 | 0.25 | 0.02 | 0.04 | 0.00 | -0.05 |
| 28. Items 3, 4, 10 Self-Ability Inventory |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.55 | 0.54 | 0.01 | 0.01 | -0.08 | -0.04 |
| 29. Items 5,6,7,9,14,16,21,22,and 24 Self-Ability Inventory |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.57 | -0.02 | -0.02 | -0.08 | -0.08 |
| 30. Items 2,8,17, and 18 Self-Ability Inventory |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.02 | -0.01 | -0.07 | -0.08 |
| 31. Employment Status of Mother |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | -0.06 | -0.01 | -0.01 |
| 32. Hours spent at free reading |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.28 | 0.30 |
| 33. Hours spent on musical activities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - | 0.24 |
| 34. Hours spent on outside activities |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | - |

## Table B4a

### Analysis of Variance of Raw Scores on Sub-test I (Standard Enriched) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 409.18 | 5 | 81.84 | 48.36[a] |
| Within Groups | 2484.32 | 1468 | 1.69 | |
| TOTAL | 2893.50 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.8507[a] | -.8012[a] | -1.1638[a] | -1.2710[a] | -.6968[a] |
| 2 Standard Accelerated | | | | | -.4203[a] | |
| 3 SMSG-Normal | | | | | -.4698[a] | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | .5742[a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.5950[a] |
| Standard vs. Contemporary | -.5578[a] |

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[a] Significant at or beyond the .05 level.

### Table B-4b

### Analysis of Variance of Raw Scores on Sub-test II (Standard Accelerated) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 222.90 | 5 | 44.58 | 9.17[a] |
| Within Groups | 7138.91 | 1468 | 4.86 | |
| TOTAL | 7361.81 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | | | .8798[a] |
| 2 Standard Accelerated | | | | | | .9446[a] |
| 3 SMSG-Normal | | | | | | 1.0459[a] |
| 4 SMSG-Accelerated | | | | | | 1.2059[a] |
| 5 UICSM-8 | | | | | | 1.3210[a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | n.s. |
| Standard vs. Contemporary | n.s. |

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[a] Significant at or beyond the .05 level.

## Table B-4c

## Analysis of Variance of Raw Scores of Sub-test III (SMSG-Normal) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 596.47 | 5 | 119.29 | 55.33 [a] |
| Within Groups | 3165.02 | 1468 | 2.16 | |
| TOTAL | 3761.49 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.4370 [a] | -1.2085 [a] | -1.8279 [a] | -1.0982 [a] | -.6522 [a] |
| 2 Standard Accelerated | | | -.7355 [a] | -1.3549 [a] | -.6252 [a] | |
| 3 SMSG-Normal | | | | -.6194 [a] | | .5563 [a] |
| 4 SMSG-Accelerated | | | | | .7297 [a] | 1.1757 [a] |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.4085 [a] |
| Standard vs. Contemporary | -.9602 [a] |

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[a] Significant at or beyond the .05 level.

## Table B-4d

### Analysis of Variance of Raw Scores on Sub-test IV (SMSG-Accelerated & UICSM-8) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 310.84 | 5 | 62.17 | 45.68[a] |
| Within Groups | 1997.69 | 1468 | 1.36 | |
| TOTAL | 2308.53 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.5665[a] | -.5607[a] | -1.2629[a] | -.9700[a] | -1.0140[a] |
| 2 Standard Accelerated | | | | -.6964[a] | -.4035[a] | -.4475[a] |
| 3 SMSG-Normal | | | | -.7022[a] | -.4093[a] | -.4533[a] |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.6730[a] |
| Standard vs. Contemporary | -.6686[a] |

---

[a] Significant at or beyond the .05 level.

## Table B-4e

### Analysis of Variance of Raw Scores on Sub-test V (UICSM-7) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 395.38 | 5 | 79.08 | 47.31 $\overset{a}{\vee}$ |
| Within Groups | 2453.75 | 1468 | 1.67 | |
| TOTAL | 2489.13 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.8692 $\overset{a}{\vee}$ | -.7478 $\overset{a}{\vee}$ | -1.0780 $\overset{a}{\vee}$ | -.8981 $\overset{a}{\vee}$ | -1.5847 $\overset{a}{\vee}$ |
| 2 Standard Accelerated | | | | | | -.7155 $\overset{a}{\vee}$ |
| 3 SMSG-Normal | | | | | | -.8369 $\overset{a}{\vee}$ |
| 4 SMSG-Accelerated | | | | | | -.5067 $\overset{a}{\vee}$ |
| 5 UICSM-8 | | | | | | -.6866 $\overset{a}{\vee}$ |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.7336 $\overset{a}{\vee}$ |
| Standard vs. Contemporary | -.6426 $\overset{a}{\vee}$ |

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$\overset{a}{\vee}$ Significant at or beyond the .05 level.

## Table B- 5a

## Analysis of Variance of Residual Scores on Sub-test I (Standard Enriched) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 126.98 | 5 | 25.40 | 17.45[a] |
| Within Groups | 2136.01 | 1468 | 1.46 | |
| TOTAL | 2262.99 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.3728[a] | | -.6216[a] | -.8719[a] | |
| 2 Standard Accelerated | | | | | -.4991[a] | |
| 3 SMSG-Normal | | | | | -.4951[a] | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | .5653[a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.3548[a] |
| Standard vs. Contemporary | -.3578[a] |

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[a] Significant at or beyond the .05 level.

Table B-5b

## Analysis of Variance of Residual Scores on Sub-test II (Standard Accelerated) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 155.33 | 5 | 31.07 | 20.14 [a] |
| Within Groups | 2264.71 | 1468 | 1.54 | |
| TOTAL | 2420.04 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | | -.3883 [a] | .8644 [a] |
| 2 Standard Accelerated | | | | | -.4689 [a] | .8278 [a] |
| 3 SMSG-Normal | | | | | | .9824 [a] |
| 4 SMSG-Accelerated | | | | | | 1.0458 [a] |
| 5 UICSM-8 | | | | | | 1.2967 [a] |
| 6 UICSM-7 | | | | | | |

Enriched vs. Accelerated n.s.

Standard vs. Contemporary n.s.

---

[a] Significant at or beyond the .05 level.

### Table B-5c

### Analysis of Variance of Residual Scores on Sub-test III (SMSG-Normal) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 282.54 | 5 | 56.51 | 30.63 [a] |
| Within Groups | 2707.98 | 1468 | 1.85 | |
| TOTAL | 2990.52 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | -.7389 [a] | -1.2191 [a] | -.6854 [a] | |
| 2 Standard Accelerated | | | -.7945 [a] | -1.2747 [a] | -.7410 [a] | |
| 3 SMSG-Normal | | | | -.4802 [a] | | |
| 4 SMSG-Accelerated | | | | | .5337 [a] | -9612 [a] |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | n.s. |
| Standard vs. Contemporary | -.7531 [a] |

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[a] Significant at or beyond the .05 level.

### Table B-5d

### Analysis of Variance of Residual Scores on Sub-test IV (SMSG-Accelerated & UICSM-8) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 156.01 | 5 | 31.20 | 23.67 $\overset{a}{\vee}$ |
| Within Groups | 1934.84 | 1468 | 1.32 | |
| TOTAL | 2090.85 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | -.9092 $\overset{a}{\vee}$ | -.6798 $\overset{a}{\vee}$ | -.7367 $\overset{a}{\vee}$ |
| 2 Standard Accelerated | | | | -.6655 $\overset{a}{\vee}$ | -.4361 $\overset{a}{\vee}$ | -.4930 $\overset{a}{\vee}$ |
| 3 SMSG-Normal | | | | -.6159 $\overset{a}{\vee}$ | -.3865 $\overset{a}{\vee}$ | -.4434 $\overset{a}{\vee}$ |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.4958 $\overset{a}{\vee}$ |
| Standard vs. Contemporary | -.5330 $\overset{a}{\vee}$ |

---

$\overset{a}{\vee}$ Significant at or beyond the .05 level.

## Table B.5e

### Analysis of Variance of Residual Scores on Sub-test V (UICSM-7) of ETS-II for Pupils in Six Mathematics Programs at the End of Grade Seven

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 187.34 | 5 | 37.47 | 25.11 [a] |
| Within Groups | 2190.48 | 1468 | 1.49 | |
| TOTAL | 2377.82 | 1473 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.4307 [a] | -.3746 [a] | -.6112 [a] | -.5537 [a] | -1.2379 [a] |
| 2 Standard Accelerated | | | | | | -.8072 [a] |
| 3 SMSG-Normal | | | | | | -.8633 [a] |
| 4 SMSG-Accelerated | | | | | | -.6267 [a] |
| 5 UICSM-8 | | | | | | -.6842 [a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.5211 [a] |
| Standard vs. Contemporary | -.4791 [a] |

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[a] Significant at or beyond the .05 level.

## Table B-6

Means and Standard Deviations of the Seven Independent Variables and the Three Criterion Measures (ETS-I, ETS-II and the TMT's) for Pupils in Each of the Six Mathematics Programs at the End of Grade Seven.

| | Programs | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Standard Enriched (N=465) | | Standard Accelerated (N=279) | | SMSG-Normal (N=213) | | SMSG-Accelerated (N=165) | | UICSM-8 (N=212) | | UICSM-7 (N=143) | | Total (N=1477) | |
| Variables | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| 1. Verbal IQ | 125.73 | 9.44 | 132.64 | 8.78 | 131.87 | 9.06 | 133.05 | 7.34 | 130.64 | 8.13 | 130.70 | 1.40 | 129.92 | 9.15 |
| 2. STEP Reading | 49.93 | 6.01 | 52.09 | 6.11 | 52.26 | 5.70 | 53.28 | 5.15 | 51.27 | 5.71 | 52.20 | 5.73 | 51.46 | 5.20 |
| 3. STEP Arithmetic | 29.62 | 5.65 | 32.97 | 5.37 | 32.88 | 5.53 | 33.30 | 4.68 | 32.36 | 5.96 | 32.17 | 5.34 | 31.78 | 5.69 |
| 4. Total Attitudes | 38.65 | 9.58 | 40.06 | 8.79 | 38.46 | 9.27 | 39.21 | 10.26 | 37.61 | 8.90 | 36.51 | 9.54 | 38.60 | 9.41 |
| 5. Attitudes: Category V | 11.59 | 4.51 | 12.22 | 1.32 | 11.09 | 4.19 | 11.78 | 4.50 | 10.98 | 4.25 | 10.59 | 4.38 | 11.48 | 4.35 |
| 6. SES | 3.42 | 1.42 | 2.88 | 1.32 | 2.94 | 1.33 | 2.77 | 1.49 | 2.50 | 1.30 | 2.52 | 1.49 | 2.96 | 1.43 |
| 7. Self-Rating | 47.88 | 9.72 | 50.29 | 10.54 | 50.83 | 9.59 | 51.83 | 9.80 | 51.70 | 10.04 | 52.00 | 9.81 | 50.15 | 10.04 |
| 8. ETS-I | 12.71 | 3.75 | 15.03 | 3.93 | 15.15 | 4.41 | 16.33 | 4.17 | 15.33 | 4.00 | 15.00 | 4.01 | 14.53 | 4.14 |
| 9. ETS-II | 13.12 | 4.00 | 16.16 | 4.00 | 16.68 | 5.02 | 18.75 | 4.35 | 17.99 | 4.78 | 16.36 | 3.78 | 15.89 | 4.70 |
| 10. TMT's | 18.87 | 3.75 | 16.88 | 3.73 | 17.54 | 3.85 | 19.21 | 4.01 | 18.26 | 3.72 | 16.29 | 3.76 | 18.04 | 3.85 |

## Table B-7a

Means, Ranks and Standard Deviations of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Classes in the Standard Enriched Program at the End of Grade Seven.

| | | ETS-I Raw | | | ETS-I Residual | | | ETS-II Raw | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. |
| 1 | 26 | 13.2692 | 10 | 2.91 | -0.5339 | 10 | 2.89 | 14.9615 | 14 | 3.88 | 0.1160 | 12 | 3.28 |
| 2 | 31 | 12.6451 | 6 | 4.18 | -1.3330 | 4 | 3.59 | 13.4193 | 7 | 3.42 | -1.8671 | 6 | 2.91 |
| 3 | 36 | 13.1388 | 9 | 4.87 | 0.6225 | 14 | 3.37 | 13.9444 | 11 | 4.34 | 0.2395 | 13 | 3.37 |
| 4 | 33 | 13.6666 | 12 | 3.46 | -0.5686 | 9 | 3.31 | 13.6363 | 9 | 4.67 | 0.9047 | 14 | 3.31 |
| 5 | 42 | 12.8333 | 8 | 3.81 | -0.9168 | 8 | 3.25 | 12.8809 | 5 | 4.27 | -2.5686 | 4 | 3.30 |
| 6 | 44 | 13.4090 | 11 | 3.91 | -1.4917 | 2 | 3.07 | 13.9545 | 12 | 4.31 | -2.6778 | 3 | 4.41 |
| 7 | 42 | 12.6904 | 7 | 4.17 | -0.9239 | 7 | 2.91 | 13.5238 | 8 | 3.56 | -1.4949 | 9 | 3.31 |
| 8 | 31 | 10.8709 | 1 | 3.53 | 0.2003 | 12 | 3.15 | 12.0000 | 4 | 3.13 | -0.1666 | 11 | 3.07 |
| 9 | 37 | 11.7027 | 3 | 3.37 | 0.4855 | 13 | 3.34 | 11.4054 | 1 | 4.79 | -0.3600 | 10 | 3.11 |
| 10 | 28 | 13.6785 | 13 | 3.96 | -1.2550 | 5 | 2.90 | 14.0000 | 13 | 4.27 | -2.3803 | 5 | 3.27 |
| 11 | 24 | 14.2916 | 14 | 3.90 | -0.0578 | 11 | 3.42 | 13.7916 | 10 | 4.09 | -1.8274 | 7 | 3.51 |
| 12 | 27 | 12.5185 | 5 | 3.03 | -1.4399 | 3 | 2.66 | 13.4074 | 6 | 3.33 | -1.6737 | 8 | 2.99 |
| 13 | 32 | 11.5312 | 2 | 2.87 | -1.8650 | 1 | 2.57 | 11.4687 | 2 | 2.79 | -3.2704 | 1 | 3.02 |
| 14 | 32 | 12.0625 | 4 | 2.51 | -1.1556 | 6 | 2.65 | 11.6875 | 3 | 2.92 | -2.7653 | 2 | 2.48 |
| Total | 465 | 12.713 | | 3.75 | -0.7309 | | 3.26 | 13.118 | | 4.00 | -1.446 | | 3.50 |

## Table B- 7b

Means, Ranks and Standard Deviations of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Classes in the Standard Accelerated Program at the End of Grade Seven.

| | | ETS-I Raw | | | ETS-I Residual | | | ETS-II Raw | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. |
| 1 | 33 | 15.0000 | 7 | 4.53 | -0.2168 | 7 | 3.53 | 16.6666 | 8 | 3.85 | 0.0364 | 7 | 2.61 |
| 2 | 27 | 14.3703 | 2 | 3.83 | -0.4806 | 5 | 3.01 | 15.1481 | 3 | 3.62 | -1.0819 | 4 | 3.07 |
| 3 | 30 | 15.2666 | 8 | 4.04 | 0.7036 | 9 | 4.17 | 16.7333 | 9 | 3.12 | 0.6500 | 8 | 2.48 |
| 4 | 30 | 17.6666 | 10 | 4.26 | 2.8193 | 10 | 2.89 | 19.5333 | 10 | 4.01 | 2.7849 | 10 | 2.93 |
| 5 | 26 | 13.3076 | 1 | 3.74 | -1.7920 | 1 | 4.27 | 15.2307 | 4 | 3.89 | -0.2368 | 5 | 4.28 |
| 6 | 24 | 15.5000 | 9 | 2.92 | -0.5620 | 4 | 2.73 | 13.5000 | 1 | 2.96 | -3.6964 | 1 | 3.25 |
| 7 | 30 | 14.6666 | 4.5 | 4.23 | -1.1892 | 2 | 4.08 | 16.6333 | 7 | 4.04 | -1.6383 | 3 | 3.84 |
| 8 | 23 | 14.9565 | 6 | 3.82 | 0.7027 | 8 | 2.70 | 16.5652 | 6 | 3.89 | 1.7525 | 9 | 3.13 |
| 9 | 24 | 14.6666 | 4.5 | 3.34 | -0.4225 | 6 | 3.10 | 14.8750 | 2 | 3.99 | -1.8241 | 2 | 3.15 |
| 10 | 32 | 14.6250 | 3 | 3.12 | -1.0544 | 3 | 3.17 | 15.7500 | 5 | 4.24 | -1.2328 | 6 | 3.52 |
| Total | 279 | 15.028 | | 3.93 | -0.1492 | | 3.55 | 16.157 | | 4.00 | -0.513 | | 3.67 |

## Table B-7c

Means, Ranks and Standard Deviations of Raw and Residual Scores on the
Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II)
for Classes in the SMSG-Normal Program at the End of Grade Seven.

| | | ETS-I Raw | | | ETS-I Residual | | | ETS-II Raw | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. |
| 1 | 30 | 14.4333 | 3 | 3.95 | -0.4272 | 3 | 3.28 | 16.2666 | 3 | 5.11 | 1.1308 | 6 | 4.53 |
| 2 | 24 | 12.5416 | 1 | 3.95 | -0.8834 | 1 | 3.09 | 13.8333 | 2 | 4.54 | -2.5891 | 1 | 3.20 |
| 3 | 30 | 13.0333 | 2 | 3.62 | -0.7906 | 2 | 3.35 | 13.5666 | 1 | 4.88 | -0.1782 | 3 | 3.20 |
| 4 | 24 | 15.9583 | 6 | 3.87 | 0.9095 | 7 | 3.68 | 17.9166 | 7 | 4.37 | 0.9610 | 5 | 4.06 |
| 5 | 23 | 15.7391 | 5 | 3.95 | 0.9041 | 6 | 2.89 | 17.9130 | 6 | 4.58 | 1.4503 | 8 | 3.44 |
| 6 | 24 | 15.5416 | 4 | 4.40 | 0.2830 | 4 | 3.84 | 17.1250 | 4 | 3.90 | 1.1367 | 7 | 3.21 |
| 7 | 30 | 16.5666 | 7 | 3.80 | 0.8971 | 5 | 2.95 | 17.7000 | 5 | 3.68 | -0.2140 | 2 | 3.34 |
| 8 | 28 | 17.3571 | 8 | 5.57 | 1.3467 | 8 | 3.59 | 19.3214 | 8 | 6.04 | 0.3783 | 4 | 4.19 |
| Total | 213 | 15.145 | | 4.41 | 0.2801 | | 3.38 | 16.676 | | 5.02 | 0.255 | | 3.84 |

## Table B- 7d

Means, Ranks and Standard Deviations of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Classes in the SMSG-Accelerated Program at the End of Grade Seven.

| Class | N | ETS-I Raw $\bar{X}$ | ETS-I Raw Rank | ETS-I Raw S.D. | ETS-I Residual $\bar{X}$ | ETS-I Residual Rank | ETS-I Residual S.D. | ETS-II Raw $\bar{X}$ | ETS-II Raw Rank | ETS-II Raw S.D. | ETS-II Residual $\bar{X}$ | ETS-II Residual Rank | ETS-II Residual S.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 27 | 17.7037 | 4 | 3.11 | 1.9837 | 5 | 3.27 | 19.2962 | 3 | 3.31 | 1.9509 | 4 | 3.01 |
| 2 | 31 | 14.9677 | 2 | 3.96 | 0.3453 | 2 | 3.42 | 17.0645 | 2 | 3.20 | 1.2478 | 1 | 3.19 |
| 3 | 26 | 18.0000 | 5 | 3.42 | 2.4764 | 6 | 2.87 | 20.7692 | 6 | 3.69 | 3.7497 | 6 | 3.08 |
| 4 | 28 | 18.0714 | 6 | 3.09 | 1.1698 | 4 | 3.08 | 20.0357 | 5 | 3.68 | 1.5881 | 3 | 3.44 |
| 5 | 22 | 15.3636 | 3 | 3.81 | 0.5891 | 3 | 2.22 | 19.3181 | 4 | 4.60 | 3.0293 | 5 | 2.99 |
| 6 | 31 | 14.1935 | 1 | 5.33 | 0.1671 | 1 | 3.41 | 16.7096 | 1 | 5.72 | 1.4437 | 2 | 3.39 |
| Total | 165 | 16.327 | | 4.17 | 1.1219 | | 3.24 | 18.751 | | 4.36 | 2.168 | | 3.28 |

## Table B-7e

Means, Ranks and Standard Deviations of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Classes in the UICSM-8 Program at the End of Grade Seven.

| | | ETS-I Raw | | | ETS-I Residual | | | ETS-II Raw | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. |
| 1 | 29 | 14.5172 | 3 | 3.77 | -0.4627 | 3 | 2.43 | 16.5862 | 3 | 4.26 | 0.1030 | 3 | 3.21 |
| 2 | 23 | 11.7826 | 1 | 2.86 | -1.0690 | 2 | 2.22 | 13.3478 | 1 | 2.74 | -0.5942 | 2 | 3.07 |
| 3 | 24 | 17.2500 | 7 | 3.50 | 1.3506 | 5 | 2.66 | 19.7916 | 6 | 3.95 | 2.0933 | 5 | 3.26 |
| 4 | 27 | 12.6296 | 2 | 3.61 | -2.4114 | 1 | 3.16 | 15.5185 | 2 | 2.94 | -0.9635 | 1 | 2.28 |
| 5 | 25 | 17.4400 | 8 | 3.75 | 1.9478 | 8 | 4.38 | 21.6400 | 7 | 3.96 | 4.6831 | 7 | 4.28 |
| 6 | 26 | 16.6307 | 6 | 3.96 | 1.9282 | 7 | 3.19 | 22.4230 | 8 | 5.45 | 6.1762 | 8 | 4.00 |
| 7 | 29 | 16.1724 | 5 | 3.27 | 1.9256 | 6 | 2.99 | 17.8620 | 5 | 3.51 | 2.3040 | 6 | 2.95 |
| 8 | 29 | 15.9655 | 4 | 3.65 | 1.0334 | 4 | 3.06 | 16.9310 | 4 | 3.91 | 0.4823 | 4 | 3.07 |
| Total | 212 | 15.330 | | 4.00 | 0.5303 | | 3.39 | 17.995 | | 4.78 | 1.785 | | 3.70 |

## Table B- 7f

Means, Ranks and Standard Deviations of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Classes in the UICSM-7 Program at the End of Grade Seven.

|  |  | ETS-I Raw |  |  | ETS-I Residual |  |  | ETS-II Raw |  |  | ETS-II Residual |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. |
| 1 | 28 | 14.9642 | 3 | 4.4595 | 0.6893 | 4 | 3.23 | 15.1785 | 1 | 3.7322 | -0.5382 | 2 | 1.99 |
| 2 | 29 | 13.9310 | 2 | 4.0260 | -0.8722 | 1 | 3.16 | 15.7586 | 3 | 3.9519 | -0.4687 | 3 | 3.18 |
| 3 | 25 | 13.8000 | 1 | 4.3969 | -0.7584 | 2 | 4.07 | 15.3600 | 2 | 3.6501 | -0.5922 | 1 | 2.42 |
| 4 | 31 | 16.0967 | 5 | 3.2593 | 0.6093 | 3 | 2.63 | 17.0322 | 4 | 2.9606 | 0.0279 | 4 | 2.52 |
| 5 | 30 | 15.9333 | 4 | 3.5905 | 1.3139 | 5 | 2.96 | 18.2000 | 5 | 3.9251 | 2.2855 | 5 | 3.13 |
| Total | 143 | 15.000 |  | 4.01 | 0.1964 |  | 3.28 | 16.363 |  | 3.7838 | 0.182 |  | 3.81 |

## Table B-8

Correlations of Selected Pupil Variables at the End of the Seventh Grade in All Six Programs Combined (N=1477).

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Correlation Matrix | | | | | | | | | |
| 1. IQ | - | 0.49 | 0.43 | 0.14 | 0.06 | -0.18 | 0.06 | 0.36 | 0.40 | 0.22 |
| 2. Reading Achievement | | - | 0.29 | 0.08 | 0.01 | -0.14 | 0.04 | 0.30 | 0.28 | 0.16 |
| 3. Arithmetic Achievement | | | - | 0.17 | 0.23 | -0.15 | 0.06 | 0.52 | 0.52 | 0.37 |
| 4. Total Attitudes | | | | - | 0.82 | -0.7 | -0.23 | 0.20 | 0.20 | 0.18 |
| 5. Category V, Attitudes | | | | | - | -0.03 | -0.29 | 0.22 | 0.24 | 0.24 |
| 6. SES, Father's Occupation [a] | | | | | | - | 0.04 | -0.17 | -0.19 | 0.10 |
| 7. Appraisal of Self-Ability [b] | | | | | | | - | 0.05 | 0.06 | -0.05 |
| 8. Developed Mathematical Abilities | | | | | | | | - | 0.62 | 0.38 |
| 9. Mathematics Achievement | | | | | | | | | - | 0.38 |
| 10. Teacher-Made Test I | | | | | | | | | | - |

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[a] Ratings go from a high of 1 to a low of 7.

[b] Ratings go from a high of 1 to a low of 5 on each of the 25 items in the scale.

## Table B-8a

## Correlations of Selected Pupil Variables at the End of the Seventh Grade in Standard-Enriched Classes

| Variables | Correlation Matrix 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. IQ | - | 2.53 | 0.44 | 0.09 | 0.05 | -0.11 | 0.08 | 0.31 | 0.34 | 0.25 |
| 2. Reading Achievement | | - | 0.34 | -0.03 | -0.05 | -0.07 | 0.06 | 0.26 | 0.23 | 0.18 |
| 3. Arithmetic Achievement | | | - | 0.16 | 0.25 | -0.13 | 0.06 | 0.51 | 0.49 | 0.46 |
| 4. Total Attitudes | | | | - | 0.84 | -0.12 | -0.25 | 0.08 | 0.17 | 0.13 |
| 5. Category V, Attitudes | | | | | - | -0.07 | -0.27 | 0.15 | 0.25 | 0.21 |
| 6. SES, Father's Occupation [a] | | | | | | - | 0.14 | -0.04 | -0.07 | -0.16 |
| 7. Appraisal of Self-Ability [b] | | | | | | | - | 0.04 | 0.00 | -0.06 |
| 8. Developed Mathematical Abilities | | | | | | | | - | 0.54 | 0.36 |
| 9. Mathematics Achievement | | | | | | | | | - | 0.40 |
| 10. Teacher-Made Test I | | | | | | | | | | - |

[a] Ratings go from a high of 1 to a low of 7.

[b] Ratings go from a high of 1 to a low of 5 on each of the 25 items in the scale.

### Table B-8b

### Correlations of Selected Pupil Variables at the End of the Seventh Grade in Standard-Accelerated Classes.

| Variables | Correlation Matrix 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. IQ | - | 0.36 | 0.26 | 0.11 | 0.01 | -0.08 | -0.01 | 0.12 | 0.18 | 0.32 |
| 2. Reading Achievement | | - | 0.09 | 0.09 | -0.04 | -0.15 | -0.04 | 0.24 | 0.18 | 0.21 |
| 3. Arithmetic Achievement | | | - | 0.09 | 0.16 | -0.00 | 0.10 | 0.37 | 0.41 | 0.48 |
| 4. Total Attitudes | | | | - | 0.80 | 0.00 | -0.26 | 0.22 | 0.17 | 0.13 |
| 5. Category V, Attitudes | | | | | - | 0.01 | -0.34 | 0.18 | 0.24 | 0.21 |
| 6. SES, Father's Occupation [a] | | | | | | - | 0.05 | -0.17 | -0.09 | -0.06 |
| 7. Appraisal of Self-Ability [b] | | | | | | | - | 0.03 | -0.01 | -0.01 |
| 8. Developed Mathematical Abilities | | | | | | | | - | 0.44 | 0.38 |
| 9. Mathematics Achievement | | | | | | | | | - | 0.35 |
| 10. Teacher-Made Test I | | | | | | | | | | - |

[a] Ratings go from a high of 1 to a low of 7.

[b] Ratings go from a high of 1 to a low of 5 on each of the 25 items in the scale.

## Table B- 8c

### Correlations of Selected Pupil Variables at the End of the Seventh Grade in SMSG-Normal Classes.

| | | Correlation Matrix | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1. | IQ | - | 0.54 | 0.45 | 0.25 | 0.12 | 0.19 | 0.01 | 0.47 | 0.47 | 0.28 |
| 2. | Reading Achievement | | - | 0.32 | 0.25 | 0.08 | 0.15 | 0.01 | 0.33 | 0.31 | 0.17 |
| 3. | Arithmetic Achievement | | | - | 0.22 | 0.23 | 0.13 | 0.01 | 0.55 | 0.56 | 0.42 |
| 4. | Total Attitudes | | | | - | 0.82 | 0.12 | 0.19 | 0.35 | 0.30 | 0.21 |
| 5. | Category V, Attitudes | | | | | - | 0.06 | 0.30 | 0.33 | 0.32 | 0.25 |
| 6. | SES, Father's Occupation [a] | | | | | | - | 0.11 | 0.11 | 0.07 | 0.12 |
| 7. | Appraisal of Self-Ability [b] | | | | | | | - | 0.07 | 0.06 | 0.07 |
| 8. | Developed Mathematical Abilities | | | | | | | | - | 0.65 | 0.53 |
| 9. | Mathematics Achievement | | | | | | | | | - | 0.54 |
| 10. | Teacher-Made Test I | | | | | | | | | | - |

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[a] Ratings go from a high of 1 to a low of 7.

[b] Ratings go from a high of 1 to a low of 5 on each of the 25 items in the scale.

# Table B-8d

## Correlations of Selected Pupil Variables at the End of the Seventh Grade in SMSG-Accelerated Classes.

| | Correlation Matrix | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1. IQ | - | 0.45 | 0.26 | 0.08 | -0.03 | -0.17 | 0.03 | 0.25 | 0.29 | 0.20 |
| 2. Reading Achievement | | - | 0.24 | 0.12 | 0.02 | -0.17 | 0.05 | 0.15 | 0.26 | 0.19 |
| 3. Arithmetic Achievement | | | - | 0.19 | 0.26 | -0.14 | 0.02 | 0.51 | 0.46 | 0.32 |
| 4. Total Attitudes | | | | - | 0.81 | -0.17 | -0.14 | 0.22 | 0.19 | 0.19 |
| 5. Category V, Attitudes | | | | | - | -0.11 | -0.24 | 0.23 | 0.21 | 0.19 |
| 6. SES, Father's Occupation [a] | | | | | | - | 0.07 | -0.31 | 0.24 | 0.39 |
| 7. Appraisal of Self-Ability [b] | | | | | | | - | -0.02 | -0.04 | 0.04 |
| 8. Developed Mathematical Abilities | | | | | | | | - | 0.52 | 0.54 |
| 9. Mathematics Achievement | | | | | | | | | - | 0.48 |
| 10. Teacher-Made Test I | | | | | | | | | | - |

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[a] Ratings go from a high of 1 to a low of 7.

[b] Ratings go from a high of 1 to a low of 5 on each of the 25 items in the scale.

## Table B- 8e

### Correlations of Selected Pupil Variables at the End of the Seventh Grade in UICSM-8 Classes.

| | Correlation Matrix | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1. IQ | - | 0.45 | 0.36 | 0.20 | 0.21 | -0.14 | -0.11 | 0.35 | 0.38 | 0.39 |
| 2. Reading Achievement | | - | 0.29 | 0.10 | 0.09 | -0.05 | -0.06 | 0.24 | 0.18 | 0.22 |
| 3. Arithmetic Achievement | | | - | 0.16 | 0.25 | -0.14 | -0.12 | 0.46 | 0.43 | 0.40 |
| 4. Total Attitudes | | | | - | 0.81 | -0.05 | -0.26 | 0.26 | 0.24 | 0.32 |
| 5. Category V, Attitudes | | | | | - | -0.03 | -0.31 | 0.35 | 0.32 | 0.37 |
| 6. SES, Father's Occupation [a] | | | | | | - | 0.05 | -0.15 | -0.23 | -0.04 |
| 7. Appraisal of Self-Ability [b] | | | | | | | - | -0.21 | -0.07 | -0.03 |
| 8. Developed Mathematical Abilities | | | | | | | | - | 0.66 | 0.53 |
| 9. Mathematics Achievement | | | | | | | | | - | 0.61 |
| 10. Teacher-Made Test I | | | | | | | | | | - |

[a] Ratings go from a high of 1 to a low of 7.

[b] Ratings go from a high of 1 to a low of 5 on each of the 25 items in the scale.

### Table B-8f

### Correlations of Selected Pupil Variables at the End of the Seventh Grade in UICSM-7 Classes.

| Variables | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| | Correlation Matrix | | | | | | | | | |
| 1. IQ | - | 0.39 | 0.39 | 0.22 | 0.07 | -0.13 | 0.04 | 0.23 | 0.24 | 0.35 |
| 2. Reading Achievement | | - | 0.20 | 0.12 | 0.06 | -0.14 | 0.04 | 0.30 | 0.26 | 0.21 |
| 3. Arithmetic Achievement | | | - | 0.27 | 0.30 | -0.11 | 0.08 | 0.54 | 0.55 | 0.49 |
| 4. Total Attitudes | | | | - | 0.82 | 0.03 | -0.27 | 0.29 | 0.42 | 0.28 |
| 5. Category V, Attitudes | | | | | - | 0.04 | -0.32 | 0.33 | 0.41 | 0.35 |
| 6. SES, Father's Occupation [a] | | | | | | - | 0.03 | 0.01 | -0.06 | -0.07 |
| 7. Appraisal of Self-Ability [b] | | | | | | | - | 0.11 | 0.14 | 0.03 |
| 8. Developed Mathematical Abilities | | | | | | | | - | 0.59 | 0.49 |
| 9. Mathematics Achievement | | | | | | | | | - | 0.53 |
| 10. Teacher-Made Test I | | | | | | | | | | - |

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[a] Ratings go from a high of 1 to a low of 7.

[b] Ratings go from a high of 1 to a low of 5 on each of the 25 items in the scale.

## Table B-9

### Intercorrelations of ETS-II Sub-tests with Total Score and Selected Variables at the End of Grade Seven

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | IQ | -- | .4921 | .4291 | .1413 | .0631 | -.1772 | .0576 | .4022 | .3018 | .2236 | .3237 | .2112 | .2730 |
| 2. | Reading Achievement | | -- | .2942 | .0763 | .0070 | -.1393 | .0431 | .2754 | .2021 | .1262 | .2427 | .1305 | .2081 |
| 3. | Mathematics Achievement | | | -- | .1664 | .2280 | -.1519 | .0649 | .5193 | .3926 | .3533 | .3885 | .2616 | .3361 |
| 4. | Total Attitudes | | | | -- | .8208 | -.0717 | -.2312 | .1967 | .1356 | .1469 | .1412 | .0999 | .1356 |
| 5. | Category V - Self-Interest | | | | | -- | -.0322 | -.2914 | .2389 | .1617 | .2107 | .1582 | .1064 | .1670 |
| 6. | SES | | | | | | -- | .0484 | -.1916 | -.1581 | -.0688 | -.1118 | -.1673 | -.1600 |
| 7. | Ability Self-Rating | | | | | | | -- | .0571 | .0616 | .0171 | .0286 | .0559 | .0327 |
| 8. | ETS-II Total Score | | | | | | | | -- | .6108[a] | .3175[a] | .6686[a] | .3454[a] | .6643[a] |
| 9. | Sub-test I | | | | | | | | | -- | .3315 | .3506 | .3087 | .3423 |
| 10. | Sub-test II | | | | | | | | | | -- | .3098 | .2238 | .2813 |
| 11. | Sub-test III | | | | | | | | | | | -- | .3196 | .3271 |
| 12. | Sub-test IV | | | | | | | | | | | | -- | .3055 |
| 13. | Sub-test V | | | | | | | | | | | | | -- |

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[a] Correlations between total ETS-II score and sub-test scores were derived from a longitudinal analysis based on 803 pupils.

# APPENDIX C

## Table C-1

### Regression Analyses of Developed Mathematical Abilities (ETS-I) and Mathematics Achievement (ETS-II) Test Scores at the End of Grade Eight Based on the Total Population (N=1271)

| Independent Variable | ETS-I<br>β-Weight | ETS-II<br>β-Weight |
|---|---|---|
| IQ | 0.1008 | 0.0825 |
| Reading Achievement | 0.0689 | 0.0326 |
| Mathematics Achievement | 0.3352 | 0.2409 |
| Attitudes: Total | -0.0435 | -0.0267 |
| Attitudes: Self-Interest | 0.2282 | 0.1529 |
| Socio-Economic Status | -0.2511 | -0.3305 |
| Self-Ability Rating | 0.0288 | 0.0228 |

| | | | |
|---|---|---|---|
| Constant | = | -11.2144 | -5.3627 |
| Standard Error of Estimate | = | 3.7387 | 3.6937 |
| R-Square | = | 0.3654 | 0.2476 |
| Multiple-R | = | 0.6044 | 0.4976 |

## Table C-2

### Regression Analyses of the Mathematics Achievement Test (ETS-II) Subtest Scores at the End of Grade Eight Based on the Total Population (N=1271).

| Independent Variable | Beta-Weights of Subtests | | | | | |
|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI |
| IQ | -.0024 | .0028 | .0000 | -.0020 | .0007 | .0001 |
| Reading Achievement | .0340 | -.0178 | -.0019 | .0417 | .0046 | .0415 |
| Math Achievement | .0319 | .0512 | .0638 | .0344 | .0262 | .0343 |
| Attitudes: Total | .0119 | -.0109 | -.0033 | .0094 | -.0033 | .0064 |
| Attitudes: Self-Interest | .0037 | .0276 | .0162 | -.0042 | .0101 | .0101 |
| Socio-Economic Status | -.0157 | -.0668 | .0362 | -.1012 | -.0190 | -.0892 |
| Self-Ability Rating | .0013 | .0038 | -.0015 | .0011 | -.0001 | .0017 |
| Constant = | -0.8238 | 0.6424 | 0.7302 | -0.8709 | 0.9475 | 1.1642 |
| Standard Error of Estimate = | 1.1340 | 0.9074 | 1.4877 | 1.1703 | 1.0727 | 1.7522 |
| R-Square = | 0.1541 | 0.4803 | 0.1376 | 0.1759 | 0.0598 | 0.0609 |
| Multiple-R = | 0.3925 | 0.6931 | 0.3710 | 0.4194 | 0.2444 | 0.2467 |

## Table C-3

## Regression Analyses of the Teacher-Made Test Scores by Program at the End of Grade Eight.

| Independent Variable | Beta-Weights of Programs | | | | | |
|---|---|---|---|---|---|---|
| | I | II | III | IV | V | VI |
| IQ | -.0104 | .0267 | .0695 | .0292 | .1386 | .0989 |
| Reading Achievement | .0532 | .1247 | .0914 | .0572 | -.0035 | .0847 |
| Math Achievement | .2552 | .1700 | .2066 | .2488 | .1336 | .0687 |
| Attitudes: Total | -.0902 | -.0625 | -.0337 | .0374 | .0440 | -.0898 |
| Attitudes: Self-Interest | .2797 | .3075 | .2707 | -.0222 | .0753 | .3748 |
| Socio-Economic Status | .0343 | .0151 | -.1952 | -.5553 | .1602 | -.6823 |
| Self-Ability Rating | -.0130 | -.0006 | .0216 | -.0074 | .0322 | .0083 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Constant = | 10.6403 | -0.5293 | -7.2993 | 0.2639 | -9.4332 | -6.1345 |
| Standard Error of Estimate = | 3.1568 | 3.5776 | 3.4621 | 3.4140 | 3.4873 | 4.1859 |
| R-Square = | 0.2443 | 0.1693 | 0.2984 | 0.2201 | 0.2138 | 0.1957 |
| Multiple-R = | 0.4943 | 0.4114 | 0.5463 | 0.4692 | 0.4624 | 0.4423 |
| N = | 321 | 248 | 202 | 160 | 212 | 128 |

## Table C-4a

### Analysis of Variance of Raw Scores on Sub-test I (Standard Enriched) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 28.33 | 5 | 5.67 | 3.73[a] |
| Within Groups | 1927.07 | 1265 | 1.52 | |
| TOTAL | 1955.40 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | -.3845[a] | | | |
| 2 Standard Accelerated | | | | | | |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

Enriched vs. Accelerated n.s.

Standard vs. Contemporary n.s.

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[a] Significant at or beyond the .05 level.

Table C-4b

### Analysis of Variance of Raw Scores on Sub-test II (Standard Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 44.46 | 5 | 8.89 | 10.20[a] |
| Within Groups | 1100.62 | 1265 | 0.87 | |
| TOTAL | 1145.08 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.3876[a] | | -.4213[a] | | |
| 2 Standard Accelerated | | | | | .3047[a] | .5220[a] |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | .3384[a] | .5357[a] |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | n.s. |
| Standard vs. Contemporary | n.s. |

---

[a] Significant at or beyond the .05 level.

## Table C-4c

### Analysis of Variance of Raw Scores on Sub-test III (SMSG-Normal) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 53.66 | 5 | 10.73 | 7.61 [a] |
| Within Groups | 1781.29 | 1265 | 1.41 | |
| TOTAL | 1834.95 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | -.6125 [a] | | -.4168 [a] | |
| 2 Standard Accelerated | | | -.4027 [a] | | | |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | n.s. |
| Standard vs. Contemporary | n.s. |

---

[a] Significant at or beyond the .05 level.

Table C-4d

### Analysis of Variance of Raw Scores on Sub-test IV (SMSG-Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 319.56 | 5 | 63.91 | 41.56 ϑ |
| Within Groups | 1942.18 | 1265 | 1.54 | |
| TOTAL | 2261.74 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | -.3872 ϑ | -.9650 ϑ | -1.1530 ϑ | -1.0047 ϑ |
| 2 Standard Accelerated | | | -.4423 ϑ | -1.0201 ϑ | -1.2081 ϑ | -1.0598 ϑ |
| 3 SMSG-Normal | | | | -.6228 ϑ | -.7658 ϑ | -.6175 ϑ |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.5773 ϑ |
| Standard vs. Contemporary | -.9035 ϑ |

---

ϑ Significant at or beyond the .05 level.

## Table C-4e

### Analysis of Variance of Raw Scores on Sub-test V (UICSM-8) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 57.16 | 5 | 11.43 | 9.62 $\overset{a}{\vee}$ |
| Within Groups | 1500.32 | 1265 | 1.19 | |
| TOTAL | 1557.48 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | | -.3884 $\overset{a}{\vee}$ | -.5560 $\overset{a}{\vee}$ |
| 2 Standard Accelerated | | | | | | |
| 3 SMSG-Normal | | | | -.4280 $\overset{a}{\vee}$ | -.4920 $\overset{a}{\vee}$ | -.6596 $\overset{a}{\vee}$ |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.4161 |
| Standard vs. Contemporary | n.s. |

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$\overset{a}{\vee}$ Significant at or beyond the .05 level.

## Table C-4f

### Analysis of Variance of Raw Scores on Sub-test VI (UICSM-7) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 487.16 | 5 | 97.43 | 45.30 [a] |
| Within Groups | 2717.02 | 1265 | 2.15 | |
| TOTAL | 3204.18 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | -.9986 [a] | -1.4090 [a] | -1.2006 [a] |
| 2 Standard Accelerated | | | | -1.1654 [a] | -1.5758 [a] | -1.3674 [a] |
| 3 SMSG-Normal | | | | -.8220 [a] | -1.2324 [a] | -1.0240 [a] |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.7821 |
| Standard vs. Contemporary | -1.0296 |

---

[a] Significant at or beyond the .05 level.

## Table C-5a

### Analysis of Variance of Residual Scores on Sub-test I (Standard Enriched) for Pupils in Six Mathematics Programs at the End of Grade Eight

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 28.65 | 5 | 5.73 | 4.18[a] |
| Within Groups | 1729.54 | 1265 | 1.37 | |
| TOTAL | 1758.19 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | | | |
| 2 Standard Accelerated | | | .3889[a] | | | |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | n.s. |
| Standard vs. Contemporary | n.s. |

---

[a] Significant at or beyond the .05 level.

## Table C-5b

### Analysis of Variance of Residual Scores on Sub-test II (Standard Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 23.04 | 5 | 4.61 | 5.76 [a] |
| Within Groups | 1010.96 | 1265 | .80 | |
| TOTAL | 1034.00 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | | | |
| 2 Standard Accelerated | | | | | | .4300 [a] |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | .4688 [a] |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

Enriched vs. Accelerated -.2895 [a]

Standard vs. Contemporary n.s.

---

[a] Significant at or beyond the .05 level.

## Table C-5c

### Analysis of Variance of Residual Scores on Sub-test III (SMSG-Normal) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 64.45 | 5 | 12.89 | 10.15 [a] |
| Within Groups | 1612.31 | 1265 | 1.27 | |
| TOTAL | 1676.76 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | .3375 [a] | -.3726 [a] | | | |
| 2 Standard Accelerated | | | -.7101 [a] | | -.5036 [a] | -.4389 [a] |
| 3 SMSG-Normal | | | | .4679 [a] | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | n.s. |
| Standard vs. Contemporary | -.3016 [a] |

---

[a] Significant at or beyond the .05 level.

## Table C-5d

### Analysis of Variance of Residual Scores on Sub-test IV (SMSG-Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 227.81 | 5 | 45.56 | 32.78 [a] |
| Within Groups | 1755.85 | 1265 | 1.39 | |
| TOTAL | 1983.66 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | .4089 [a] | | -.5836 [a] | -.8367 [a] | -.6500 [a] |
| 2 Standard Accelerated | | | -.5032 [a] | -.9927 [a] | -1.2456 [a] | -1.0589 [a] |
| 3 SMSG-Normal | | | | -.4895 [a] | -.7424 [a] | -.5557 [a] |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.3096 [a] |
| Standard vs. Contemporary | -.7168 [a] |

---

[a] Significant at or beyond the .05 level.

## Table C-5e

### Analysis of Variance of Residual Scores on Sub-test V (UICSM-8) for Pupils in Six Mathematics Programs at the End of Grade Eight

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 44.16 | 5 | 8.83 | 7.77 [a] |
| Within Groups | 1438.10 | 1265 | 1.14 | |
| TOTAL | 1482.26 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | | | .4093 [a] |
| 2 Standard Accelerated | | | | | | .4225 [a] |
| 3 SMSG-Normal | | | | | .4777 [a] | .6632 [a] |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | .2256 [a] |
| Standard vs. Contemporary | n.s. |

---

[a] Significant at or beyond the .05 level.

Table C-5f

### Analysis of Variance of Residual Scores on Sub-test VI (UICSM-7) for Pupils in Six Mathematics Programs at the End of Grade Eight.

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 394.61 | 5 | 78.92 | 43.60 ϑ |
| Within Groups | 2293.86 | 1265 | 1.81 | |
| TOTAL | 2688.47 | 1270 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | .5430 ϑ | | | -1.0747 ϑ | -.8319 ϑ |
| 2 Standard Accelerated | | | | -.9392 ϑ | -1.6177 ϑ | -1.3749 ϑ |
| 3 SMSG-Normal | | | | -.5465 ϑ | -1.2250 ϑ | -.9822 ϑ |
| 4 AMSG-Accelerated | | | | | .6785 ϑ | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.4097 ϑ |
| Standard vs. Contemporary | -.7600 ϑ |

---

ϑ Significant at or beyond the .05 level.

## Table C-6a

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Students in the Twelve Standard Enriched Classes at the End of Grade Eight.

| | | ETS-I Raw | | | | ETS-I Residual | | | ETS-II Raw | | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | R | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 25 | 16.88 | 10 | 4.12 | 7-23 | 0.16 | 10 | 3.79 | 17.16 | 12 | 4.43 | 12-27 | 2.50 | 12 | 4.00 |
| 2 | 29 | 15.31 | 4 | 4.62 | 7-27 | -1.76 | 2 | 3.28 | 14.45 | 7 | 3.68 | 8-22 | -0.66 | 6 | 3.06 |
| 3 | 23 | 16.70 | 8 | 3.88 | 8-30 | -0.43 | 9 | 4.45 | 14.50 | 8 | 3.44 | 9-21 | -0.60 | 7 | 3.23 |
| 4 | 13 | 9.53 | 1 | 2.72 | 5-20 | -1.24 | 5.5 | 5.17 | 10.73 | 1 | 1.94 | 7-14 | 0.28 | 10 | 3.07 |
| 5 | 38 | 14.18 | 2 | 3.95 | 6-24 | -2.14 | 1 | 3.08 | 13.11 | 3 | 3.29 | 7-21 | -1.31 | 3 | 2.58 |
| 6 | 29 | 17.07 | 12 | 4.58 | 11-29 | 0.38 | 11 | 3.55 | 14.53 | 9 | 3.98 | 8-20 | 0.05 | 9 | 2.92 |
| 7 | 30 | 16.93 | 11 | 4.15 | 10-25 | 0.44 | 12 | 3.60 | 14.87 | 11 | 3.60 | 6-22 | 0.33 | 11 | 3.48 |
| 8 | 26 | 15.96 | 7 | 4.58 | 8-28 | -0.92 | 8 | 3.07 | 14.00 | 6 | 3.72 | 8-19 | -2.19 | 1 | 3.09 |
| 9 | 24 | 16.74 | 9 | 4.84 | 8-27 | -1.45 | 4 | 3.82 | 14.74 | 10 | 3.38 | 7-26 | -0.69 | 5 | 3.42 |
| 10 | 27 | 15.59 | 6 | 3.84 | 8-22 | -1.72 | 3 | 3.36 | 13.74 | 5 | 2.94 | 8-22 | -0.41 | 8 | 3.13 |
| 11 | 29 | 15.52 | 5 | 3.30 | 7-23 | -1.04 | 7 | 3.66 | 13.36 | 4 | 2.80 | 8-19 | -1.27 | 4 | 2.46 |
| 12 | 28 | 14.86 | 3 | 4.00 | 7-22 | -1.24 | 5.5 | 3.35 | 12.86 | 2 | 2.70 | 8-17 | -1.63 | 2 | 2.22 |

---

[a] Ranges are reported only for raw scores.

## Table C-6b

Means, Ranks, Standard Deviations and Ranges [a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Students in the Ten Standard Accelerated Classes at the End of Grade Eight.

| | | ETS-I Raw | | | | ETS-I Residual | | | ETS-II Raw | | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\dot{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\dot{X}$ | Rank | S.D. |
| 1 | 21 | 17.88 | 4 | 4.29 | 12-28 | -0.90 | 1 | 4.09 | 13.75 | 3 | 2.98 | 7-18 | -2.80 | 2 | 2.56 |
| 2 | 22 | 18.20 | 5 | 4.16 | 14-23 | -0.14 | 6 | 3.19 | 12.12 | 1 | 2.82 | 6-18 | -3.97 | 1 | 2.68 |
| 3 | 28 | 17.61 | 3 | 4.24 | 12-28 | -0.51 | 5 | 2.96 | 14.07 | 4 | 3.62 | 10-21 | -0.97 | 8 | 2.56 |
| 4 | 22 | 23.32 | 10 | 4.33 | 12-27 | 3.21 | 10 | 3.06 | 19.09 | 10 | 4.44 | 13-30 | 1.92 | 10 | 3.89 |
| 5 | 25 | 16.65 | 2 | 3.82 | 10-27 | -0.64 | 4 | 5.12 | 14.13 | 5 | 3.63 | 5-22 | -1.14 | 7 | 3.51 |
| 6 | 28 | 18.56 | 6 | 3.87 | 12-26 | -0.88 | 2 | 3.67 | 14.57 | 7 | 2.86 | 9-20 | -2.59 | 3 | 3.05 |
| 7 | 21 | 18.77 | 7 | 4.97 | 9-28 | -0.71 | 3 | 4.69 | 14.36 | 6 | 3.05 | 9-23 | -2.57 | 4 | 2.47 |
| 8 | 22 | 16.55 | 1 | 4.07 | 10-25 | 0.06 | 7 | 2.70 | 12.27 | 2 | 4.37 | 5-18 | -2.53 | 5 | 4.13 |
| 9 | 29 | 19.10 | 8 | 4.21 | 9-28 | -0.05 | 8.5 | 3.45 | 16.83 | 9 | 4.13 | 8-25 | 0.17 | 9 | 3.42 |
| 10 | 30 | 19.17 | 9 | 3.56 | 12-25 | -0.05 | 8.5 | 3.46 | 15.30 | 8 | 3.60 | 9-23 | -1.35 | 6 | 3.65 |

---

[a] Ranges are reported only for raw scores.

## Table C-6c

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and Mathematics Achievement Test (ETS-II) for Students in the Eight SMSG-Normal Classes at the End of Grade Eight.

| | | ETS-I Raw | | | | ETS-I Residual | | | ETS-II Raw | | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 30 | 18.53 | 4 | 4.79 | 7-28 | 0.70 | 7 | 3.82 | 15.78 | 3 | 4.57 | 9-33 | 0.10 | 5.5 | 3.74 |
| 2 | 26 | 13.83 | 1 | 4.08 | 5-20 | -1.32 | 2 | 3.53 | 12.29 | 1 | 2.46 | 7-17 | -1.25 | 3 | 3.16 |
| 3 | 27 | 15.93 | 2 | 4.51 | 8-23 | -1.98 | 1 | 3.75 | 13.37 | 2 | 3.20 | 7-19 | -1.75 | 1 | 2.43 |
| 4 | 20 | 18.69 | 5 | 2.85 | 16-29 | 0.66 | 6 | 2.96 | 15.88 | 4 | 3.59 | 11-25 | 0.10 | 5.5 | 3.85 |
| 5 | 20 | 18.96 | 6 | 3.88 | 16-21 | 0.26 | 3 | 2.74 | 16.38 | 7 | 3.65 | 11-20 | -0.31 | 4 | 2.62 |
| 6 | 22 | 18.20 | 3 | 4.63 | 11-28 | 0.29 | 4 | 3.59 | 16.00 | 5 | 3.88 | 9-24 | 0.47 | 7 | 3.43 |
| 7 | 30 | 21.10 | 7 | 3.71 | 14-27 | 0.61 | 5 | 3.35 | 16.10 | 6 | 3.87 | 7-25 | -1.42 | 2 | 3.65 |
| 8 | 27 | 21.41 | 8 | 4.36 | 13-30 | 1.31 | 8 | 3.52 | 19.96 | 8 | 5.20 | 10-29 | 2.65 | 8 | 4.53 |

---

[a] Ranges are reported only for raw scores.

# Table C-6d

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Students in the Six SMSG-Accelerated Classes at the End of Grade Eight.

| | | ETS-I Raw | | | | ETS-I Residual | | | ETS-II Raw | | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 26 | 20.65 | 4 | 3.55 | 15-26 | 1.29 | 4 | 3.45 | 18.77 | 6 | 3.96 | 9-25 | 1.87 | 5 | 3.77 |
| 2 | 31 | 17.17 | 1 | 3.89 | 9-24 | -0.43 | 1 | 3.57 | 14.67 | 1 | 2.89 | 9-20 | -0.69 | 1 | 2.97 |
| 3 | 24 | 20.96 | 6 | 4.71 | 13-30 | 1.53 | 6 | 4.00 | 17.48 | 3 | 4.94 | 8-25 | 0.43 | 3 | 4.45 |
| 4 | 27 | 20.85 | 5 | 4.14 | 13-27 | 0.74 | 3 | 3.87 | 17.11 | 2 | 3.95 | 11-25 | -0.27 | 2 | 3.71 |
| 5 | 21 | 19.48 | 3 | 3.40 | 15-30 | 1.37 | 5 | 1.96 | 17.67 | 4 | 3.20 | 14-26 | 1.84 | 4 | 2.23 |
| 6 | 31 | 19.03 | 2 | 4.24 | 11-26 | 0.25 | 2 | 3.65 | 18.32 | 5 | 4.27 | 11-27 | 1.89 | 6 | 3.74 |

---

[a] Ranges are reported only for raw scores.

## Table C-6e

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Students in the Eight UICSM-8 Classes at the End of Grade Eight.

| | | ETS-I Raw | | | | ETS-I Residual | | | ETS-II Raw | | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 27 | 18.58 | 3 | 4.34 | 10-26 | 0.31 | 3 | 3.41 | 17.07 | 4 | 4.68 | 10-28 | 0.81 | 4 | 3.50 |
| 2 | 23 | 15.04 | 1 | 2.98 | 8-19 | -0.41 | 1 | 3.27 | 14.17 | 1 | 3.11 | 7-20 | 0.19 | 2 | 2.62 |
| 3 | 20 | 21.60 | 8 | 3.44 | 13-28 | 1.41 | 6 | 2.70 | 21.40 | 8 | 2.64 | 17-26 | 3.84 | 8 | 2.28 |
| 4 | 26 | 18.19 | 2 | 4.09 | 13-27 | -0.28 | 2 | 3.40 | 16.69 | 3 | 4.59 | 8-28 | 0.58 | 3 | 3.81 |
| 5 | 25 | 20.43 | 7 | 4.66 | 8-29 | 1.49 | 8 | 5.81 | 19.54 | 7 | 4.25 | 12-26 | 3.20 | 7 | 4.81 |
| 6 | 29 | 18.65 | 4 | 4.57 | 10-26 | 0.47 | 4 | 3.61 | 15.50 | 2 | 3.87 | 8-25 | -0.50 | 1 | 3.48 |
| 7 | 33 | 18.78 | 5 | 3.70 | 13-30 | 1.47 | 7 | 4.21 | 17.69 | 5 | 3.44 | 11-25 | 2.11 | 5 | 3.41 |
| 8 | 29 | 19.31 | 6 | 4.28 | 9-26 | 1.01 | 5 | 3.61 | 18.72 | 6 | 4.08 | 10-26 | 2.79 | 6 | 3.96 |

---

[a] Ranges are reported only for raw scores.

## Table C-6f

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) for Students in the Five UICSM-7 Classes at the End of Grade Eight.

| | | ETS-I Raw | | | | ETS-I Residual | | | ETS-II Raw | | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S. D. |
| 1 | 22 | 18.91 | 4 | 4.25 | 7-25 | 0.86 | 4 | 3.56 | 18.22 | 4 | 3.36 | 14-23 | 2.15 | 5 | 2.94 |
| 2 | 25 | 18.63 | 3 | 4.36 | 9-28 | 0.09 | 3 | 3.68 | 15.50 | 2 | 3.01 | 10-22 | -0.34 | 1 | 2.69 |
| 3 | 24 | 16.75 | 1 | 4.00 | 10-27 | -0.82 | 1 | 2.73 | 17.25 | 3 | 3.91 | 8-25 | 1.53 | 3 | 3.03 |
| 4 | 30 | 20.76 | 5 | 4.61 | 10-28 | 2.11 | 5 | 3.65 | 18.59 | 5 | 3.73 | 12-24 | 2.10 | 4 | 3.29 |
| 5 | 27 | 17.44 | 2 | 4.10 | 8-25 | -0.58 | 2 | 3.59 | 15.44 | 1 | 3.98 | 8-23 | -0.31 | 2 | 3.81 |

---

[a] Ranges are reported only for raw scores.

## Table C-7

### Intercorrelations of Selected Variables and Raw Test Scores - Grade Eight.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. IQ | - | .4681 | .4156 | .1077 | .0326 | -.1476 | .0365 | .4105 | .3438 | .1213 |
| 2. Reading Achievement | | - | .2620 | .0740 | .0037 | -.1169 | .0270 | .2857 | .2197 | .1261 |
| 3. Math Achievement | | | - | .1132 | .1822 | -.1285 | .0583 | .5434 | .4390 | .2445 |
| 4. Attitudes: Total | | | | - | .8010 | -.0412 | -.2568 | .1398 | .1130 | .1993 |
| 5. Attitudes: Self-Interest | | | | | - | -.0179 | -.3161 | .1990 | .1543 | .2437 |
| 6. SES | | | | | | - | .0348 | -.1797 | -.0331 | -.1679 |
| 7. Self-Ability Rating | | | | | | | - | .0486 | .0430 | -.0841 |
| 8. ETS-I Raw | | | | | | | | - | .5840 | .3611 |
| 9. ETS-II Raw | | | | | | | | | - | .3109 |
| 10. TMT Raw | | | | | | | | | | |

N = 1271

## Table C-8a

### Intercorrelations of TMT Raw Scores with Selected Variables
### Standard Enriched Program
### Grade Eight

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. IQ | - | .4919 | .4071 | .0549 | .0161 | -.0956 | .0911 | .1643 |
| 2. Reading Achievement | | - | .2887 | -.0604 | -.0597 | -.0152 | .0868 | .1768 |
| 3. Mathematics Achievement | | | - | .1001 | .2022 | -.1047 | .0761 | .4473 |
| 4. Total Attitudes | | | | - | .8183 | -.0867 | -.3080 | .0909 |
| 5. Category V - Self-Interest | | | | | - | -.0446 | -.3248 | .2332 |
| 6. SES | | | | | | - | .0969 | -.0258 |
| 7. Ability Self-Rating | | | | | | | - | -.0386 |
| 8. TMT | | | | | | | | |

N = 321

## Table C-8b

### Intercorrelations of TMT Raw Scores with Selected Variables
### Standard Accelerated Program
### Grade Eight

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 1. | IQ | -- | .3464 | .2652 | .1232 | -.0082 | -.0660 | -.0416 | .1698 |
| 2. | Reading Achievement | | -- | .0767 | .1063 | -.0243 | -.1475 | -.0557 | .2127 |
| 3. | Math Achievement | | | -- | .0586 | .1135 | -.0147 | .1276 | .2911 |
| 4. | Total Attitudes | | | | -- | .7971 | -.0038 | -.2865 | .1549 |
| 5. | Category V - Self-Interest | | | | | -- | -.0090 | -.3284 | .2257 |
| 6. | SES | | | | | | -- | .0420 | .0335 |
| 7. | Ability Self-Rating | | | | | | | -- | -.0487 |
| 8. | TMT Score | | | | | | | | -- |

N = 248

## Table C-8c

### Intercorrelations of *TMT* Raw Scores with Selected Variables
SMSG-Normal Program
Grade Eight

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. IQ | -- | .5536 | .4660 | .2229 | .0851 | -.1346 | .0209 | .3821 |
| 2. Reading Achievement | | -- | .3422 | .2431 | .0790 | -.1264 | .0178 | .3270 |
| 3. Mathematics Achievement | | | -- | .2012 | .2073 | -.0989 | .0419 | .4545 |
| 4. Total Attitudes | | | | -- | .8007 | -.1206 | -.1537 | .2643 |
| 5. Category V - Self-Interest | | | | | -- | -.0691 | -.2615 | .2825 |
| 6. SES | | | | | | -- | .1239 | -.1342 |
| 7. Ability Self-Rating | | | | | | | -- | .0014 |
| 8. TMT | | | | | | | | |

N = 202

## Table C-8d

### Intercorrelations of Raw TMT Scores with Selected Variables
### SMSG-Accelerated Program
### Grade Eight

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 1. | IQ | -- | .4159 | .2720 | .0579 | -.0435 | -.1611 | .0129 | .2127 |
| 2. | Reading Achievement | | -- | .2224 | .0965 | -.0020 | -.1544 | .0311 | .2102 |
| 3. | Mathematics Achievement | | | -- | .1305 | .2333 | -.1302 | .0030 | .3721 |
| 4. | Total Attitudes | | | | -- | .7836 | -.1603 | -.1149 | .1696 |
| 5. | Category V - Self-Interest | | | | | -- | -.1006 | -.2107 | .1485 |
| 6. | SES | | | | | | -- | .0573 | -.2953 |
| 7. | Ability Self-Rating | | | | | | | -- | -.0336 |
| 8. | TMT | | | | | | | | |

N = 160

### Table C-8e

### Intercorrelations of Raw TMT Scores with Selected Variables
UICSM-8 Program
Grade Eight

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 1. | IQ | -- | .4351 | .3817 | .1900 | .1779 | -.1088 | -.1359 | .3820 |
| 2. | Reading Achievement | | -- | .2676 | .1066 | .0836 | -.0360 | -.0759 | .1847 |
| 3. | Mathematics Achievement | | | -- | .1521 | .2299 | -.1185 | -.1535 | .3270 |
| 4. | Total Attitudes | | | | -- | .7818 | -.0364 | -.2634 | .2230 |
| 5. | Category V - Self-Interest | | | | | -- | -.0105 | -.3363 | .2276 |
| 6. | SES | | | | | | -- | .0675 | -.0004 |
| 7. | Ability Self-Rating | | | | | | | -- | -.0364 |
| 8. | TMT | | | | | | | | |

N = 212

### Table C-8f

### Intercorrelations of TMT Raw Scores with Selected Variables
### UICSM-7 Program
### Grade Eight.

| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|---|
| 1. | IQ | -- | .3847 | .3826 | .2267 | .0563 | -.1471 | .0226 | .2481 |
| 2. | Reading Achievement | | -- | .1722 | .1586 | .0853 | -.1704 | .0147 | .2245 |
| 3. | Mathematics Achievement | | | -- | .2404 | .2631 | -.1378 | .0536 | .2405 |
| 4. | Total Attitudes | | | | -- | .7974 | .0069 | -.3053 | .1679 |
| 5. | Category V - Self-Interest | | | | | -- | -.0002 | -.3777 | .2408 |
| 6. | SES | | | | | | -- | -.0122 | -.2696 |
| 7. | Ability Self-Rating | | | | | | | -- | -.0480 |
| 8. | TMT | N = 128 | | | | | | | |

## Table C-9

Intercorrelations of ETS-II Sub-Tests with Total Score and Selected Variables at the End of Grade Eight.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. I.Q. | | .4680 | .4156 | .1067 | .0319 | -.1474 | .0376 | .3449 | .1471 | .2087 | .2116 | .2436 | .1558 | .2124 |
| 2. Reading Achievement | | | .2619 | .0737 | .0034 | -.1164 | .0279 | .2238 | .0966 | .1315 | .0723 | .1626 | .0723 | .2034 |
| 3. Mathematics Achievement | | | | .1127 | .1820 | -.1284 | .0592 | .4402 | .2887 | .2533 | .2917 | .2790 | .1810 | .2231 |
| 4. Total Attitudes | | | | | .8005 | -.0417 | -.2574 | .1095 | .1099 | .0676 | .0341 | .0748 | .0147 | .0662 |
| 5. Category V - Self-Interest | | | | | | -.0181 | -.3161 | .1520 | .1399 | .1239 | .0730 | .0850 | .0636 | .0511 |
| 6. SES | | | | | | | .0324 | .1718 | -.0604 | -.0974 | -.0501 | -.1573 | -.0829 | -.1285 |
| 7. Ability Self-Rating | | | | | | | | .0459 | .0184 | .0272 | .0480 | .0455 | .0031 | .0166 |
| 8. ETS-II Total Score | | | | | | | | | .5560 | .4339 | .5725 | .6649 | .4789 | .6623 |
| 9. Sub-Test I | | | | | | | | | | .1560 | .2486 | .1978 | .1274 | .1739 |
| 10. Sub-Test II | | | | | | | | | | | .1332 | .1493 | .1148 | .1394 |
| 11. Sub-Test III | | | | | | | | | | | | .2675 | .1340 | .1877 |
| 12. Sub-Test IV | | | | | | | | | | | | | .1909 | .3644 |
| 13. Sub-Test V | | | | | | | | | | | | | | .1564 |
| 14. Sub-Test VI | | | | | | | | | | | | | | |

# APPENDIX D

## Table D-1

## Regression Analyses[a] of the Developed Mathematical Abilities Test (ETS-I) and the Mathematics Achievement Test (ETS-II) Scores at the End of Grade Nine

| | Tests | |
|---|---|---|
| | ETS-I | ETS-II |
| Independent Variables | β-weight | β-weight |
| IQ | 0.0765 | 0.0725 |
| Reading Achievement | 0.0150 | 0.0329 |
| Math. Achievement | 0.3029 | 0.2771 |
| Total | -0.0237 | -0.0288 |
| Attitudes | | |
| Category V (Math-Interest) | 0.2583 | 0.2199 |
| Socio-Economic Status | -0.1105 | -0.3393 |
| Ability Self-Rating | 0.0450 | 0.0412 |

| | | | |
|---|---|---|---|
| Constant | = | -7.4482 | -7.1897 |
| Standard Error of Estimate | = | 3.6147 | 4.4126 |
| R-Square | = | 0.3165 | 0.2224 |
| Multiple R | = | 0.5626 | 0.4716 |

[a] Regression based on the total population N =868

### Table D-2

### Regression Analyses of the Mathematics Achievement Test (ETS-II) Sub-test Scores at the End of Grade Nine.

| | Sub-tests | | | | | |
|---|---|---|---|---|---|---|
| Independent Variables | I | II | III | IV | V | VI |
| | Beta - Weights | | | | | |
| 1. IQ | .0102 | .0101 | .0065 | .0108 | .0185 | .0149 |
| 2. Reading Achievement | -.0023 | .0069 | .0072 | .0028 | .0162 | .0021 |
| 3. Mathematics Achievement | .0262 | .0762 | .0321 | .0468 | .0525 | .0588 |
| 4. Total Attitudes | -.0010 | -.0033 | .0037 | -.0093 | -.0062 | .0101 |
| 5. Self-Interest - Category V | .0346 | .0540 | .0176 | .0257 | .0388 | .0454 |
| 6. Socio-Economic Status | -.0252 | -.0819 | -.0450 | -.0231 | -.1576 | -.0411 |
| 7. Ability Self-Rating | .0013 | .0097 | .0012 | .0051 | .0163 | .0090 |
| Constant = | -.0858 | -2.4281 | .6896 | -1.2252 | -2.4752 | -1.9924 |
| Standard Error of Estimate = | 1.5844 | 1.2803 | 1.1952 | 1.5252 | 1.3777 | 1.2583 |
| R-Square = | .0423 | .1198 | .0461 | .0764 | .1243 | .1016 |
| Multiple R = | .2057 | .3462 | .2147 | .2764 | .3525 | .3187 |

[a] Regression based on a total population of 843 since the Standard Accelerated Class which followed the second year algebra sequence was not included.

### Table D-3

### Regression Analyses [a] of the Six Teacher-Made Test Scores By Program at the End of Grade Nine.

| Independent Variables | I (N=269) | II [b] (N=105) | III (N=114 ) | IV (N=93) | V (N=142) | VI (N=120) |
|---|---|---|---|---|---|---|
| | Beta - Weights | | | | | |
| 1. IQ | .0889 | .0721 | .0594 | .0259 | .0776 | -.0008 |
| 2. Reading Achievement | -.0158 | .0015 | .0495 | -.1521 | -.0348 | .0606 |
| 3. Math Achievement | .3016 | .2127 | .2723 | .3988 | .3356 | .3323 |
| 4. Total Attitudes | -.0363 | -.0256 | .0501 | .0552 | .0571 | .0590 |
| 5. Self-Interest - Category V | .2461 | .2452 | .4613 | .0349 | .2792 | .2069 |
| 6. Socio-Economic Status | .1950 | -.0797 | .2203 | -.6144 | -.0064 | -.2884 |
| 7. Ability Self-Rating | .0103 | .0063 | .0679 | .1098 | .0343 | .0715 |
| Constant = | -6.6192 | -1.7607 | -8.9810 | 3.9111 | -4.0470 | -4.0828 |
| Standard Error of Estimate = | 3.7547 | 3.4565 | 3.3900 | 3.9083 | 3.3454 | 3.3938 |
| R-Square = | .2869 | .1560 | .3599 | .2781 | .3363 | .3744 |
| Multiple R = | .5356 | .3950 | .5999 | .5274 | .5799 | .6119 |
| N = | 269 | 105 | 114 | 93 | 142 | 120 |

[a] Regression for each TMT based on population within each program.

[b] The Standard Accelerated class which followed the second year algebra sequence was not included in the TMT analysis.

## Table D-4a

## Analysis of Variance of Raw Scores on Sub-test I (Standard Enriched) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 51.9103 | 5 | 10.3820 | 6.45 [a] |
| Within Groups | 1348.0850 | 837 | 1.6106 | |
| TOTAL | 1399.9953 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | -.6607 [a] | | |
| 2 Standard Accelerated | | | | -.8756 [a] | | -.5977 [a] |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | n.s. |
| Standard vs. Contemporary | -.4112 [a] |

---

[a] Significant at or beyond the .05 level.

## Table D-4b

### Analysis of Variance of Raw Scores on Sub-test II (Standard Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 865.2300 | 5 | 173.0460 | 95.85 [a] |
| Within Groups | 1511.0334 | 837 | 1.8052 | |
| TOTAL | 2376.2634 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -2.5999 [a] | | -.8957 [a] | | -2.2737 [a] |
| 2 Standard Accelerated | | | 2.1481 [a] | 1.7042 [a] | 2.5405 [a] | |
| 3 SMSG-Normal | | | | | | -1.8219 [a] |
| 4 SMSG-Accelerated | | | | | .8363 [a] | -1.3780 [a] |
| 5 UICSM-8 | | | | | | -2.2143 [a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -1.2512 [a] |
| Standard vs. Contemporary | n.s. |

---

[a] Significant at or beyond the .05 level.

## Table D-4c

### Analysis of Variance of Raw Scores on Sub-test III (SMSG-Normal) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 137.3793 | 5 | 27.4758 | 17.703[a] |
| Within Groups | 1299.1717 | 837 | 1.5521 | |
| TOTAL | 1436.5510 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | .5287[a] | -.7791[a] | -.5561[a] | | |
| 2 Standard Accelerated | | | -1.3078[a] | -1.0848[a] | | |
| 3 SMSG-Normal | | | | | .8030[a] | 1.0983[a] |
| 4 SMSG-Accelerated | | | | | .5800[a] | .8753[a] |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | .3307[a] |
| Standard vs. Contemporary | -.3307[a] |

---

[a] Significant at or beyond the .05 level.

## Table D-4d

## Analysis of Variance of Raw Scores on Sub-test IV (SMSG-Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 215.5171 | 5 | 43.1034 | 33.19[a] |
| Within Groups | 1087.0808 | 837 | 1.2987 | |
| TOTAL | 1302.5979 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -1.2129[a] | -.5355[a] | -.9760[a] | | -1.2986[a] |
| 2 Standard Accelerated | | | .6774[a] | | .8415[a] | |
| 3 SMSG-Normal | | | | | | -.7631[a] |
| 4 SMSG-Accelerated | | | | | .6046[a] | |
| 5 UICSM-8 | | | | | | -.9272[a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.7682[a] |
| Standard vs. Contemporary | -.4278[a] |

---

[a] Significant at or beyond the .05 level.

## Table D-4e

## Analysis of Variance of Raw Scores on Sub-test V (UICSM-8) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 739.9633 | 5 | 147.9926 | 82.98 [a] |
| Within Groups | 1492.6939 | 837 | 1.7833 | |
| TOTAL | 2232.6572 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | -1.7000 [a] | -1.8186 [a] | -2.0495 [a] | -1.5035 [a] |
| 2 Standard Accelerated | | | -1.9631 [a] | -2.0817 [a] | -2.3126 [a] | -1.7666 [a] |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | .5460 [a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.8265 [a] |
| Standard vs. Contemporary | -1.8529 [a] |

---

[a] Significant at or beyond the .05 level.

## Table D-4f

## Analysis of Variance of Raw Scores on Sub-test VI (UICSM-7) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 627.6554 | 5 | 125.5310 | 95.27 [a] |
| Within Groups | 1102.8713 | 837 | 1.3176 | |
| TOTAL | 1730.5267 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -1.5701 [a] | -.6588 [a] | -.9089 [a] | | -2.4022 [a] |
| 2 Standard Accelerated | | | .9113 [a] | .6612 [a] | 1.5476 [a] | -.8321 [a] |
| 3 SMSG-Normal | | | | | .6363 [a] | -1.7434 [a] |
| 4 SMSG-Accelerated | | | | | .8864 [a] | -1.4933 [a] |
| 5 UICSM-8 | | | | | | -2.3797 [a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.9796 [a] |
| Standard vs. Contemporary | -.5210 [a] |

---

[a] Significant at or beyond the .05 level.

## Table D-5a

## Analysis of Variance of Residual Scores on Sub-test I (Standard Enriched) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 28.1526 | 5 | 5.6305 | 3.81[a] |
| Within Groups | 1238.1779 | 837 | 1.4793 | |
| TOTAL | 1266.3305 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | | | | |
| 2 Standard Accelerated | | | | -.6419[a] | | |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

Enriched vs. Accelerated n.s.

Standard vs. Contemporary n.s.

---

[a] Significant at or beyond the .05 level.

Table D-5b

Analysis of Variance of Residual Scores on Sub-test II (Standard Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 439.7460 | 5 | 87.9492 | 49.16 $\overset{a}{\vee}$ |
| Within Groups | 1497.4615 | 837 | 1.7890 | |
| TOTAL | 1937.2075 | 842 | | |

Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -1.3240 $\overset{a}{\vee}$ | | | | -1.9429 $\overset{a}{\vee}$ |
| 2 Standard Accelerated | | | 1.3488 $\overset{a}{\vee}$ | .9922 $\overset{a}{\vee}$ | 1.1728 $\overset{a}{\vee}$ | -.6189 $\overset{a}{\vee}$ |
| 3 SMSG-Normal | | | | | | -1.9677 $\overset{a}{\vee}$ |
| 4 SMSG-Accelerated | | | | | | -1.6111 $\overset{a}{\vee}$ |
| 5 UICSM-8 | | | | | | -1.7917 $\overset{a}{\vee}$ |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.9301 $\overset{a}{\vee}$ |
| Standard vs. Contemporary | n.s. |

---

$\overset{a}{\vee}$ Significant at or beyond the .05 level.

## Table D-5c

### Analysis of Variance of Residual Scores on Sub-test III (SMSG-Normal) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 85.7739 | 5 | 17.1547 | 11.43 [a] |
| Within Groups | 1255.8096 | 837 | 1.5003 | |
| TOTAL | 1341.5835 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | -.5139 [a] | | | .4735 [a] |
| 2 Standard Accelerated | | | -.9717 [a] | -.7133 [a] | | |
| 3 SMSG-Normal | | | | | .6545 [a] | .9874 [a] |
| 4 SMSG-Accelerated | | | | | | .7290 [a] |
| 5 UICSM-8 | | | | | | |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | .3727 [a] |
| Standard vs. Contemporary | n.s. |

---

[a] Significant at or beyond the .05 level.

## Table D-5d

## Analysis of Variance of Residual Scores on Sub-test IV (SMSG-Accelerated) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 108.2445 | 5 | 21.6489 | 16.88 [a] |
| Within Groups | 1073.7293 | 837 | 1.2828 | |
| TOTAL | 1181.9738 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.5355 [a] | | -.6083 [a] | | -1.0575 [a] |
| 2 Standard Accelerated | | | | | | -.5220 [a] |
| 3 SMSG-Normal | | | | | | -.8600 [a] |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | -.8466 [a] |
| 6 UICSM-7 | | | | | | |

Enriched vs. Accelerated -.5274 [a]

Standard vs. Contemporary -.3527 [a]

---

[a] Significant at or beyond the .05 level.

## Table D-5e

## Analysis of Variance of Residual Scores on Sub-test V (UICSM-8) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 381.1301 | 5 | 76.2260 | 44.54 $\overset{a}{\vee}$ |
| Within Groups | 1432.3756 | 837 | 1.7113 | |
| TOTAL | 1813.5057 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | | -1.1376 $\overset{a}{\vee}$ | -1.1410 $\overset{a}{\vee}$ | -1.6230 $\overset{a}{\vee}$ | -1.0341 $\overset{a}{\vee}$ |
| 2 Standard Accelerated | | | -1.2841 $\overset{a}{\vee}$ | -1.2875 $\overset{a}{\vee}$ | -1.7695 $\overset{a}{\vee}$ | -1.1805 $\overset{a}{\vee}$ |
| 3 SMSG-Normal | | | | | | |
| 4 SMSG-Accelerated | | | | | | |
| 5 UICSM-8 | | | | | | .5889 $\overset{a}{\vee}$ |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.6294 $\overset{a}{\vee}$ |
| Standard vs. Contemporary | -1.2998 $\overset{a}{\vee}$ |

---

$\overset{a}{\vee}$ Significant at or beyond the .05 level.

## Table D-5f

### Analysis of Variance of Residual Scores on Sub-test VI (UICSM-7) for Pupils in Six Mathematics Programs at the End of Grade Nine

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 403.9277 | 5 | 80.7855 | 56.48[a] |
| Within Groups | 1197.2476 | 837 | 1.4304 | |
| TOTAL | 1601.1753 | 842 | | |

### Scheffé Tests

| PROGRAM | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| 1 Standard Enriched | | -.7478[a] | | | | -2.1240[a] |
| 2 Standard Accelerated | | | | | | -1.3762[a] |
| 3 SMSG-Normal | | | | | | -1.8694[a] |
| 4 SMSG-Accelerated | | | | | | -1.7054[a] |
| 5 UICSM-8 | | | | | | -1.8411[a] |
| 6 UICSM-7 | | | | | | |

| | |
|---|---|
| Enriched vs. Accelerated | -.8209[a] |
| Standard vs. Contemporary | -.5640[a] |

---

[a] Significant at or beyond the .05 level.

## Table D-6a

Means, Ranks, Standard Deviations and Ranges [a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) [b] and the Mathematics Achievement Test (ETS-II) [c] for Classes in the Standard Enriched Program at the End of Grade Nine.

| | | ETS-I Raw | | | | ETS-I Residual | | | ETS-II Raw | | | | ETS-II Residual | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | X̄ | Rank | S.D. | Range | X̄ | Rank | S.D. | X | Rank | S.D. | Range | X | Rank | S.D. |
| 1 | 23 | 17.39 | 10 | 4.48 | 7-26 | 1.32 | 11 | 4.44 | 14.00 | 11 | 3.36 | 7-19 | -0.19 | 11 | 3.75 |
| 2 | 29 | 14.86 | 6 | 4.64 | 6-27 | 0.72 | 10 | 3.74 | 12.14 | 6 | 3.16 | 6-19 | -0.34 | 10 | 3.62 |
| 3 | 36 | 14.41 | 2 | 4.73 | 7-23 | -1.08 | 4 | 3.63 | 12.47 | 7 | 3.02 | 8-17 | -1.35 | 7 | 2.73 |
| 4 | 28 | 15.64 | 7 | 4.59 | 8-24 | -0.26 | 7 | 3.54 | 13.36 | 10 | 3.27 | 8-21 | -0.71 | 9 | 3.22 |
| 5 | 27 | 13.44 | 1 | 3.50 | 7-20 | -2.57 | 1 | 2.88 | 12.93 | 9 | 3.78 | 7-20 | -1.26 | 8 | 3.26 |
| 6 | 23 | 16.43 | 9 | 5.21 | 8-26 | -0.76 | 5 | 4.50 | 9.91 | 1 | 3.72 | 6-16 | -5.44 | 1 | 4.07 |
| 7 | 27 | 17.48 | 11 | 4.69 | 5-25 | 0.37 | 9 | 4.00 | 12.56 | 8 | 4.45 | 4-21 | -2.93 | 6 | 3.91 |
| 8 | 22 | 14.77 | 5 | 3.62 | 9-22 | -1.47 | 2 | 3.43 | 11.23 | 5 | 3.64 | 5-18 | -3.44 | 3 | 3.74 |
| 9 | 19 | 15.84 | 8 | 3.72 | 10-23 | -0.05 | 8 | 3.56 | 11.21 | 4 | 3.58 | 5-18 | -2.99 | 4 | 3.50 |
| 10 | 15 | 14.53 | 3 | 3.89 | 9-20 | -1.34 | 3 | 3.48 | 11.07 | 3 | 3.94 | 6-19 | -2.97 | 5 | 3.70 |
| 11 | 20 | 14.70 | 4 | 2.58 | 9-20 | -0.80 | 6 | 2.32 | 10.40 | 2 | 2.37 | 9-14 | -3.45 | 2 | 3.20 |

---

[a] Ranges are reported only for raw scores.

[b] Maximum possible raw score = 30.

[c] Maximum possible raw score = 40

## Table D-6b

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I)[b] and the Mathematics Achievement Test (ETS-II)[c] for Classes in the Standard Accelerated Program at the End of Grade Nine.

|  |  | ETS-I Raw |  |  |  | ETS-I Residual |  |  | ETS-II Raw |  |  |  | ETS-II Residual |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 21 | 16.86 | 3 | 4.16 | 12-25 | -1.05 | 3 | 3.76 | 17.33 | 5 | 4.85 | 7-25 | 1.20 | 5 | 4.37 |
| 2 | 20 | 16.30 | 2 | 3.57 | 11-22 | -1.09 | 2 | 3.68 | 15.15 | 3 | 4.04 | 5-21 | -0.53 | 2 | 3.96 |
| 3[d] | 25 | 18.76 | 6 | 3.47 | 11-23 | 0.40 | 6 | 3.05 | 15.00 | 2 | 3.79 | 11-21 | -1.84 | 1 | 4.09 |
| 4 | 21 | 15.95 | 1 | 3.04 | 10-22 | -2.35 | 1 | 3.53 | 14.33 | 1 | 3.79 | 8-22 | 0.25 | 4 | 4.00 |
| 5 | 22 | 17.86 | 4 | 3.56 | 8-23 | -0.31 | 5 | 2.88 | 18.00 | 6 | 3.90 | 12-23 | 1.68 | 6 | 3.42 |
| 6 | 21 | 18.29 | 5 | 3.58 | 9-23 | -0.58 | 4 | 3.11 | 17.05 | 4 | 4.40 | 10-26 | 0.14 | 3 | 4.46 |

---

[a] Ranges are reported only for raw scores.

[b] Maximum possible raw score = 30

[c] Maximum possible raw score = 40

[d] This class followed an algebra rather than geometry sequence.

## Table D-6c

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I)[b] and the Mathematics Achievement Test (ETS-II)[c] for Classes in the SMSG-Normal Program at the End of Grade Nine.

| Class | N | ETS-I Raw $\bar{X}$ | ETS-I Raw Rank | ETS-I Raw S.D. | ETS-I Raw Range | ETS-I Residual $\bar{X}$ | ETS-I Residual Rank | ETS-I Residual S.D. | ETS-II Raw $\bar{X}$ | ETS-II Raw Rank | ETS-II Raw S.D. | ETS-II Raw Range | ETS-II Residual $\bar{X}$ | ETS-II Residual Rank | ETS-II Residual S.D. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 20 | 18.85 | 4 | 4.18 | 12-24 | 1.09 | 4 | 3.62 | 16.65 | 3 | 3.72 | 10-23 | 0.42 | 3 | 3.15 |
| 2 | 17 | 18.59 | 2 | 4.17 | 14-29 | 1.57 | 5 | 3.21 | 14.18 | 1 | 4.41 | 8-27 | -1.19 | 1 | 3.57 |
| 3 | 22 | 15.36 | 1 | 3.53 | 11-23 | -1.24 | 1 | 3.34 | 15.23 | 2 | 3.82 | 10-23 | 0.10 | 2 | 2.94 |
| 4 | 30 | 19.33 | 5 | 3.39 | 13-25 | 0.30 | 3 | 2.71 | 17.83 | 5 | 5.01 | 0-24 | 0.54 | 5 | 4.90 |
| 5 | 25 | 18.76 | 3 | 4.40 | 11-28 | 0.09 | 2 | 3.71 | 17.28 | 4 | 3.26 | 12-25 | 0.44 | 4 | 3.28 |

---

[a] Ranges are reported only for raw scores.

[b] Maximum possible raw score = 30

[c] Maximum possible raw score = 40

## Table D-6d

Means, Ranks, Standard Deviations and Ranges [a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) [b] and the Mathematics Achievement Test (ETS-II) [c] for Classes in the SMSG-Accelerated Program at the End of Grade Nine.

| | | ETS-I Raw | | | | ETS-I Residuals | | | ETS-II Raw | | | | ETS-II Residuals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 25 | 20.24 | 3 | 3.52 | 13-27 | 2.17 | 4 | 3.78 | 19.12 | 2 | 4.19 | 14-31 | 2.56 | 4 | 4.09 |
| 2 | 20 | 19.80 | 2 | 4.76 | 12-29 | 1.48 | 3 | 3.98 | 19.20 | 3 | 5.13 | 6-30 | 2.51 | 3 | 4.32 |
| 3 | 21 | 20.52 | 4 | 4.25 | 13-27 | 1.41 | 2 | 4.21 | 19.29 | 4 | 4.41 | 12-30 | 1.77 | 2 | 4.31 |
| 4 | 27 | 18.07 | 1 | 4.87 | 9-28 | 0.50 | 1 | 4.03 | 14.70 | 1 | 4.87 | 6-25 | -1.11 | 1 | 3.61 |

---

[a] Ranges are reported only for raw scores.

[b] Maximum possible raw score = 30

[c] Maximum possible raw score = 40

## Table D-6e

Means, Ranks, Standard Deviations and Ranges[a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I)[b] and the Mathematics Achievement Test (ETS-II)[c] for Classes in the UICSM-8 Program at the End of Grade Nine.

| | | ETS-I Raw | | | | ETS-I Residuals | | | ETS-II Raw | | | | ETS-II Residuals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 25 | 17.80 | 3 | 4.44 | 11-26 | 0.11 | 2 | 3.46 | 14.88 | 3 | 3.96 | 6-24 | -1.24 | 2 | 3.15 |
| 2 | 21 | 14.76 | 1 | 3.59 | 8-24 | -0.12 | 1 | 3.07 | 10.67 | 1 | 3.10 | 5-15 | -2.72 | 1 | 3.30 |
| 3 | 20 | 18.95 | 6 | 4.81 | 11-27 | 1.28 | 5 | 3.77 | 16.40 | 6 | 3.73 | 8-25 | 0.09 | 5 | 3.50 |
| 4 | 21 | 18.45 | 4 | 3.20 | 11-24 | 1.49 | 6 | 3.16 | 14.50 | 2 | 4.93 | 4-23 | -0.92 | 3 | 4.78 |
| 5 | 30 | 17.47 | 2 | 3.66 | 12-26 | 0.74 | 3 | 3.47 | 15.83 | 5 | 5.11 | 9-30 | 0.47 | 6 | 4.82 |
| 6 | 25 | 18.68 | 5 | 3.45 | 11-25 | 1.22 | 4 | 2.97 | 15.80 | 4 | 4.50 | 11-27 | 0.01 | 4 | 3.88 |

---

[a] Ranges are reported only for raw scores.

[b] Maximum possible score = 30

[c] Maximum possible score = 40

Table D-6f

Means, Ranks, Standard Deviations and Ranges [a] of Raw and Residual Scores on the Developed Mathematical Abilities Test (ETS-I) [b] and the Mathematics Achievement Test (ETS-II) [c] for Classes in the UICSM-7 Program at the End of Grade Nine.

| | | ETS-I Raw | | | | ETS-I Residuals | | | ETS-II Raw | | | | ETS-II Residuals | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Class | N | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. | $\bar{X}$ | Rank | S.D. | Range | $\bar{X}$ | Rank | S.D. |
| 1 | 22 | 15.09 | 2 | 3.39 | 7-21 | -0.84 | 2 | 2.75 | 19.73 | 3 | 3.47 | 13-29 | 5.22 | 5 | 3.60 |
| 2 | 23 | 18.96 | 5 | 3.56 | 11-29 | 0.68 | 5 | 2.62 | 20.87 | 4 | 4.86 | 9-31 | 4.13 | 3 | 4.36 |
| 3 | 24 | 14.75 | 1 | 4.37 | 7-24 | -2.05 | 1 | 3.50 | 17.50 | 1 | 4.85 | 10-28 | 2.25 | 1 | 4.21 |
| 4 | 27 | 18.15 | 4 | 3.88 | 11-27 | 0.61 | 4 | 3.52 | 21.30 | 5 | 4.40 | 14-28 | 5.16 | 4 | 3.64 |
| 5 | 24 | 17.04 | 3 | 4.05 | 9-24 | -0.07 | 3 | 3.67 | 18.75 | 2 | 4.32 | 11-25 | 3.37 | 2 | 3.96 |

[a] Ranges reported only for raw scores.

[b] Maximum possible score = 30

[c] Maximum possible score = 40

## Table D-7

### Intercorrelations of Raw Test Scores with Selected Variables for the Total Population (N=868) at the End of Grade Nine.

|  | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|
| 1. IQ | - | .4948 | .4363 | .0894 | .0300 | -.1639 | .0549 | .3492 | .3043 | .0319 |
| 2. Reading Achievement |  |  | .3079 | .0717 | .0065 | -.1231 | .0295 | .2209 | .2087 | .0510 |
| 3. Math Achievement |  |  | - | .1257 | .2040 | -.1572 | .0533 | .5068 | .4202 | .1531 |
| 4. Total Attitudes |  |  |  |  | .7934 | -.0232 | -.2499 | .1845 | .1273 | .1532 |
| 5. Self-Interest, Category V |  |  |  |  |  | -.0041 | -.3078 | .2576 | .1825 | .1515 |
| 6. Socio-Economic Status |  |  |  |  |  | - | .0181 | -.1215 | -.1672 | -.0211 |
| 7. Ability Self-Rating |  |  |  |  |  |  | - | .0676 | .0613 | .0036 |
| 8. ETS-I |  |  |  |  |  |  |  | - | .5444 | .2926 |
| 9. ETS-II |  |  |  |  |  |  |  |  | - | .2139 |
| 10. TMT |  |  |  |  |  |  |  |  |  |  |

Table D-8a

Intercorrelations of Teacher-Made Test (TMT) Raw Scores
with Selected Variables for Pupils in the Standard Enriched Program
(N=269) at the End of Grade Nine.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. I.Q. | -- | .4715 | .4022 | .0446 | -.0150 | -.1022 | .1075 | .3188 |
| 2. Reading Achievement | | -- | .2966 | -.0640 | -.0746 | -.0074 | .0832 | .1673 |
| 3. Math Achievement | | | -- | .0985 | .1972 | -.1201 | .1307 | .4827 |
| 4. Total Attitudes | | | | -- | .8191 | -.0635 | -.2880 | .1596 |
| 5. Category V - Self-Interest | | | | | -- | -.0113 | -.2901 | .2458 |
| 6. Socio-Economic Status | | | | | | -- | .0554 | -.0004 |
| 7. Ability Self-Rating | | | | | | | -- | .0457 |
| 8. TMT | | | | | | | | |

Table D-8b

Intercorrelations of Teacher-Made Test (TMT) Raw Scores
with Selected Variables for Pupils in the Standard Accelerated Program
(N=105) at the End of Grade Nine.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. I.Q. | -- | .4597 | .0729 | .0670 | -.1155 | -.2176 | -.0233 | .1668 |
| 2. Reading Achievement | | -- | .0105 | .0775 | -.1322 | -.2302 | -.0635 | .0550 |
| 3. Math Achievement | | | -- | .1141 | .1662 | -.1486 | .0817 | .3194 |
| 4. Total Attitudes | | | | -- | .7768 | .1080 | -.1955 | .1613 |
| 5. Category V - Self-Interest | | | | | -- | .0625 | -.2943 | .2070 |
| 6. SES | | | | | | -- | .1135 | -.0948 |
| 7. Ability Self-Rating | | | | | | | -- | -.0262 |
| 8. TMT | | | | | | | | -- |

## Table D-8c

### Intercorrelations of Teacher-Made Test (TMT) Raw Scores with Selected Variables for Pupils in the SMSG-Normal Program (N=114) at the End of Grade Nine.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. I.Q. | -- | .5284 | .3236 | .1408 | .0229 | -.0184 | .1460 | .2841 |
| 2. Reading Achievement | | -- | .1669 | .2264 | .0756 | -.0935 | .0857 | .2034 |
| 3. Math Achievement | | | -- | .1182 | .1127 | -.0194 | .0948 | .4474 |
| 4. Total Attitudes | | | | -- | .8089 | -.1244 | -.1087 | .3035 |
| 5. Category V -Self-Interest | | | | | -- | -.0770 | -.2303 | .3714 |
| 6. SES | | | | | | -- | .0797 | .0463 |
| 7. Ability Self-Rating | | | | | | | -- | .1214 |
| 8. TMT | | | | | | | | -- |

## Table D-8d

### Intercorrelations of Teacher-Made Test (TMT) Raw Scores with Selected Variables for Pupils in the SMSG-Accelerated Program (N=93) at the End of Grade Nine.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. I.Q. | -- | .4354 | .3252 | .1231 | .0909 | -.0688 | .0964 | .1536 |
| 2. Reading Achievement | | -- | .2726 | .1470 | .0063 | -.1932 | .0943 | .0383 |
| 3. Math Achievement | | | -- | .1338 | .1782 | -.0768 | .0299 | .4004 |
| 4. Total Attitudes | | | | -- | .7598 | -.1808 | -.1331 | .1990 |
| 5. Category V - Self-Interest | | | | | -- | -.1454 | -.2276 | .1866 |
| 6. SES | | | | | | -- | -.0323 | -.2256 |
| 7. Ability Self-Rating | | | | | | | -- | .1847 |
| 8. TMT | | | | | | | | -- |

### Table D-8e

### Intercorrelations of Teacher-Made Test (TMT) Raw Scores with Selected Variables for Pupils in the UICSM-8 Program (N=142) at the End of Grade Nine.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. I.Q. | -- | .4936 | .4024 | .1538 | .1484 | -.0940 | -.1250 | .3203 |
| 2. Reading Achievement | | -- | .3726 | .1347 | .1291 | -.0395 | -.1279 | .1963 |
| 3. Math Achievement | | | -- | .1970 | .3609 | -.1141 | -.1781 | .5331 |
| 4. Total Attitudes | | | | -- | .7454 | -.0568 | -.2735 | .1688 |
| 5. Category V - Self-Interest | | | | | -- | -.0473 | -.3389 | .3331 |
| 6. SES | | | | | | -- | .0778 | -.0634 |
| 7. Ability Self-Rating | | | | | | | -- | -.0624 |
| 8. TMT | | | | | | | | -- |

### Table D-8f

### Intercorrelations of Teacher-Made Test (TMT) Raw Scores with Selected Variables for Pupils in the UICSM-7 Program (N=120) at the End of Grade Nine.

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1. I.Q. | -- | .3926 | .3923 | .2268 | .0577 | -.1742 | -.0168 | .2452 |
| 2. Reading Achievement | | -- | .1530 | .1542 | .0662 | -.1545 | .0173 | .1994 |
| 3. Math Achievement | | | -- | .2495 | .2418 | -.1299 | .0586 | .5181 |
| 4. Total Attitudes | | | | -- | .8073 | -.0065 | -.3076 | .3660 |
| 5. Category V - Self-Interest | | | | | -- | .0248 | -.3855 | .3555 |
| 6. SES | | | | | | -- | .0042 | -.1571 |
| 7. Ability Self-Rating | | | | | | | -- | .0688 |
| 8. TMT | | | | | | | | -- |

## Table D-9

Intercorrelations of ETS-II Raw Sub-test Scores
with Selected Variables for the Total Population (N=868)
at the End of Grade Nine.

| | Independent Variables | | | | | | | Sub-tests | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 1. I.Q. | -- | .4953 | .4394 | .0940 | .0393 | -.1539 | .0459 | .1251 | .1916 | .1329 | .1791 | .2365 | .2030 |
| 2. Reading Achievement | | -- | .3025 | .0667 | .0076 | -.1082 | .0318 | .0629 | .1346 | .1031 | .1147 | .1796 | .1247 |
| 3. Math Achievement | | | -- | .1232 | .2061 | -.1478 | .0482 | .1669 | .3154 | .1855 | .2589 | .2800 | .2920 |
| 4. Total Attitudes | | | | -- | .7943 | -.0209 | -.2480 | .1005 | .1126 | .0918 | .0242 | .0582 | .0622 |
| 5. Category V - Self-Interest | | | | | -- | -.0017 | -.3032 | .1299 | .1554 | .1034 | .0652 | .0831 | .1106 |
| 6. SES | | | | | | -- | .0196 | -.0540 | -.1145 | -.0791 | -.0680 | -.1821 | -.0855 |
| 7. Ability Self-Rating | | | | | | | -- | -.0146 | .0346 | -.0059 | .0449 | .0899 | .0526 |
| 8. Sub-test I | | | | | | | | -- | .1259 | .1804 | .1783 | .2842 | .1830 |
| 9. Sub-test II | | | | | | | | | -- | .0093 | .3870 | .0886 | .4388 |
| 10. Sub-test III | | | | | | | | | | -- | .0778 | .2721 | .0924 |
| 11. Sub-test IV | | | | | | | | | | | -- | .1581 | .3568 |
| 12. Sub-test V | | | | | | | | | | | | -- | .2071 |
| 13. Sub-test VI | | | | | | | | | | | | | -- |

## Table D-10

## Analysis of Covariance of Ninth Grade Total Attitude Scores Adjusted by Seventh Grade Attitude Scores.

### A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 2940.60 | 5 | 588.12 | 6.05 [a] |
| Within Groups | 84246.60 | 866 | 97.28 | |
| TOTAL | 87187.20 | 871 | | |

### B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 3298.90 | 5 | 659.78 | 5.73 [a] |
| Within Groups | 99756.60 | 866 | 115.19 | |
| TOTAL | 103055.50 | 871 | | |

### C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | -.0376 |
| 2 | -.1511 |
| 3 | -.1508 |
| 4 | -.0287 |
| 5 | -.0459 |
| 6 | .1415 |

---

[a] Significant at or beyond the .05 level

## Table D- 11

## Analysis of Covariance of Ninth Grade Category I Scores Adjusted by Seventh Grade Category I Scores.

### A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 91.13 | 5 | 18.23 | 3.70 [a] |
| Within Groups | 4264.84 | 866 | 4.92 | |
| TOTAL | 4355.97 | 871 | | |

### B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 62.69 | 5 | 12.54 | 1.93 |
| Within Groups | 5621.12 | 866 | 6.49 | |
| TOTAL | 5683.81 | 871 | | |

### C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | .0309 |
| 2 | .0365 |
| 3 | -.1199 |
| 4 | -.1189 |
| 5 | -.0148 |
| 6 | .0770 |

---

[a] Significant at or beyond the .05 level

## Table D-12

## Analysis of Covariance of Ninth Grade Category II Scores Adjusted by Seventh Grade Category II Scores.

### A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 150.47 | 5 | 30.09 | 5.43 [a] |
| Within Groups | 4799.57 | 866 | 5.54 | |
| TOTAL | 4950.04 | 871 | | |

### B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 35.92 | 5 | 7.18 | 1.19 |
| Within Groups | 5238.22 | 866 | 6.05 | |
| TOTAL | 5274.14 | 871 | | |

### C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | .0607 |
| 2 | .0558 |
| 3 | -.1203 |
| 4 | -.0295 |
| 5 | -.0534 |
| 6 | .0256 |

---

[a] Significant at or beyond the .05 level

## Table D-13

## Analysis of Covariance of Ninth Grade Category III Scores Adjusted by Seventh Grade Category III Scores.

### A. Analysis of Variance of Ninth Grade Scores Before Correction:

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 57.23 | 5 | 11.45 | 2.15 |
| Within Groups | 4610.50 | 866 | 5.32 | |
| TOTAL | 4667.73 | 871 | | |

### B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 107.02 | 5 | 21.40 | 3.65[a] |
| Within Groups | 5081.74 | 866 | 5.87 | |
| TOTAL | 5188.76 | 871 | | |

### C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | -.0572 |
| 2 | -.0504 |
| 3 | -.0702 |
| 4 | -.0369 |
| 5 | .0167 |
| 6 | .0990 |

---

[a] Significant at or beyond the .05 level

## Table D-14

## Analysis of Covariance of Ninth Grade Category IV Scores Adjusted by Seventh Grade Category IV Scores.

A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 156.71 | 5 | 31.34 | 11.42 $\overset{a}{\vee}$ |
| Within Groups | 2377.23 | 866 | 2.75 | |
| TOTAL | 2533.94 | 871 | | |

B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 38.92 | 5 | 7.78 | 2.73 $\overset{a}{\vee}$ |
| Within Groups | 2472.76 | 866 | 2.86 | |
| TOTAL | 2511.68 | 871 | | |

C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | .0427 |
| 2 | -.1201 |
| 3 | -.1338 |
| 4 | -.0393 |
| 5 | -.0293 |
| 6 | .1231 |

---

$\overset{a}{\vee}$ Significant at or beyond the .05 level

## Table D-15

## Analysis of Covariance of Ninth Grade Category V Scores Adjusted by Seventh Grade Category V Scores.

### A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 320.45 | 5 | 64.09 | 3.04 [a] |
| Within Groups | 18233.27 | 866 | 21.05 | |
| TOTAL | 18553.72 | 871 | | |

### B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMA OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 1145.81 | 5 | 229.16 | 10.38 [a] |
| Within Groups | 19123.70 | 866 | 22.08 | |
| TOTAL | 20269.51 | 871 | | |

### C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | -.1021 |
| 2 | -.1369 |
| 3 | -.1765 |
| 4 | -.0497 |
| 5 | -.0168 |
| 6 | .0732 |

---

[a] Significant at or beyond the .05 level

## Table D-16

## Analysis of Covariance of Ninth Grade Category VI Scores Adjusted by Seventh Grade Category VI Scores.

A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 11.66 | 5 | 2.33 | 0.91 |
| Within Groups | 2227.01 | 866 | 2.57 | |
| TOTAL | 2238.67 | 871 | | |

B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 34.64 | 5 | 6.93 | 2.04 |
| Within Groups | 2935.95 | 866 | 3.39 | |
| TOTAL | 2970.59 | 871 | | |

C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | -.0737 |
| 2 | .0428 |
| 3 | .0626 |
| 4 | -.1283 |
| 5 | .0609 |
| 6 | .0614 |

## Table D-17

### Analysis of Covariance of Ninth Grade Total Self-Rating Scores Adjusted by Seventh Grade Total Self-Rating Scores.

A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 1630.40 | 5 | 326.08 | 3.25 [a] |
| Within Groups | 86697.90 | 865 | 100.23 | |
| TOTAL | 88328.30 | 870 | | |

B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 3158.90 | 5 | 631.78 | 6.41 [a] |
| Within Groups | 85236.30 | 865 | 98.54 | |
| TOTAL | 88395.20 | 870 | | |

C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | -.0458 |
| 2 | .0353 |
| 3 | .1283 |
| 4 | -.0999 |
| 5 | .1878 |
| 6 | -.0585 |

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[a] Significant at or beyond the .05 level.

## Table D-18

## Analysis of Covariance of Ninth Grade Self-Rating of Mathematical Ability Scores Adjusted by Seventh Grade Self-Rating of Mathematical Ability Scores

### A. Analysis of Variance of Ninth Grade Scores Before Correction

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 12.34 | 5 | 2.47 | 2.63 [a] |
| Within Groups | 810.73 | 865 | 0.94 | |
| TOTAL | 823.07 | 870 | | |

### B. Analysis of Variance of Seventh Grade Scores

| SOURCE OF VARIANCE | SUMS OF SQUARES | d.f. | EST. MEAN SQUARES | F |
|---|---|---|---|---|
| Among Means | 57.03 | 5 | 11.41 | 11.41 [a] |
| Within Groups | 864.81 | 865 | 1.00 | |
| TOTAL | 921.84 | 870 | | |

### C. Individual Program Mean Corrections

| Program | b-weights |
|---|---|
| 1 | -.0547 |
| 2 | -.0238 |
| 3 | -.1128 |
| 4 | -.1936 |
| 5 | .1098 |
| 6 | -.1205 |

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[a] Significant at or beyond the .05 level

## Table D-19

Adjusted Means,[a] Ranks and Standard Deviations of Total Attitude Scores and Scores on Each of Six Attitude Categories for Pupils in the Six Mathematics Programs at the End of Grade Nine.

| | | Category | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | I | | | II | | | III | | | IV | | | V | | | VI | | | Total Score | | |
| Program | N | $\bar{\bar{X}}$ | Rank | S.D. | $\bar{\bar{X}}$ | Rank | S.D. | $\bar{\bar{X}}$ | Rank | S.D. | $\bar{\bar{X}}$ | Rank | S.D. | $\bar{\bar{X}}$ | Rank | S.D. | $\bar{\bar{X}}$ | Rank | S.D. | $\bar{\bar{X}}$ | Rank | S.D. |
| 1.St. Enr. | 266 | 5.70 | 4 | 1.91 | 5.62 | 3 | 2.41 | 7.84 | 4 | 2.27 | 4.90 | 6 | 1.54 | 11.02 | 5 | 4.77 | 2.99 | 2.5 | 1.41 | 38.08 | 5 | 9.56 |
| 2.St. Acc. | 130 | 5.86 | 5 | 1.67 | 6.06 | 5 | 2.18 | 7.91 | 5 | 2.24 | 4.79 | 4 | 1.54 | 11.62 | 6 | 3.98 | 3.16 | 5 | 1.62 | 39.39 | 6 | 8.67 |
| 3.SMSG-Nor. | 113 | 5.18 | 2 | 1.77 | 6.11 | 6 | 2.19 | 7.60 | 3 | 2.29 | 4.20 | 3 | 1.64 | 10.06 | 3 | 4.66 | 2.99 | 2.5 | 1.57 | 36.17 | 3 | 9.59 |
| 4.SMSG-Acc. | 89 | 5.88 | 6 | 4.23 | 6.01 | 4 | 2.23 | 8.01 | 6 | 2.57 | 4.82 | 5 | 1.72 | 10.94 | 4 | 4.60 | 3.19 | 6 | 2.10 | 37.60 | 4 | 11.67 |
| 5.UICSM-8[b] | 156 | 5.33 | 3 | 1.89 | 5.37 | 2 | 2.51 | 7.45 | 2 | 2.20 | 4.12 | 2 | 1.92 | 9.75 | 1 | 4.62 | 2.82 | 1 | 1.51 | 34.80 | 2 | 9.31 |
| 6.UICSM-7 | 118 | 4.93 | 1 | 1.99 | 4.82 | 1 | 2.43 | 7.20 | 1 | 2.42 | 3.78 | 1 | 1.76 | 9.93 | 2 | 4.66 | 3.08 | 4 | 1.70 | 33.72 | 1 | 11.18 |

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[a] Means were adjusted by seventh grade attitude scores. See Tables D-10 - D-16, Appendix D.

[b] The UICSM-8 class which followed the incorrect sequence is included.